DJ-493
DJ-496/438
Service Manual

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ALINCO, INC.

SPECIFICATIONS

1) GENERAL

Frequency coverage	DJ-493T : TX 430 ~ 449.995MHz RX 430 ~ 449.995MHz
	E : TX 430 ~ 439.995MHz RX 430 ~ 439.995MHz
	TA2 : TX 450 ~ 469.995MHz RX 450 ~ 469.995MHz
	DJ-496T : TX 430 ~ 449.995MHz RX 430 ~ 449.995MHz
	E : TX 430 ~ 439.995MHz RX 430 ~ 439.995MHz
	DJ-438TA2 : TX 450 ~ 469.995MHz RX 450 ~ 469.995MHz
Mode	F3E (FM)
Channel steps	5,10,12.5,15,20,25, & 30kHz
Memory channels	40 channels+1 CALL channel
Antenna connector	BNC (50Ω unbalanced)
Frequency stability	±5 ppm
Microphone input impedance	2kΩ nominal
Power supply requirement	7.0 ~ 16.0V DC (negative ground)
Current drain (at 13.8 V DC)	1.4A (typical) Transmit high at 5W
	200mA (typical) Receive at 280mW
	50mA (typical) standby
	20mA (typical) Battery save on
Usable temperature range	-10 ~ +60°C (14 ~ 140°F)
Dimensions	56 (W) x 124 (H) x 40 (D) mm (with EBP-48N)
(Projections not included)	2.2"(W) x 4.88"(H) x 1.57"(D) inches (with EBP-48N)
Weight	Approx. 375g (13.2oz) (with EBP-48N)
DTMF (DJ-496)	16 Buttons Keypad
Sub audible Tone(CTCSS)	encoder/decoder installed (39tones)
Sub audible Tone (DCS)	encoder/decoder installed (104codes)

2) TRANSMITTER

Output power	Approx. 4W EBP-48N installed
	Approx. 5W 13.8V DC
	Approx. 0.8W (LOW)
Modulation system	Variable reactance frequency modulation
Spurious emissions	Less than -60dB
Max. frequency deviation	±5kHz

3) RECEIVER

Receive system	Double conversion superheterodyne
Intermediate frequencies	1st 45.1MHz / 2nd 455kHz
Sensitivity(12dB SINAD)	Less than -12.0dBμ (0.25V)
Selectivity	-6dB : 12kHz or more
	-60dB : 26kHz or less
Audio output power	280mW (typical with an 8Ω load)
	200mW (8Ω 10% THD)

CIRCUIT DESCRIPTION

1) Receiver System

The receiver system is a double superheterodyne system with a 45.1MHz first IF and a 455kHz second IF.

1. Front End

The received signal at any frequency in the 430.00- to 449.995-MHz range is passed through the low-pass filter (L2, L3, L8, C2, C9, C10, C11, and C62) and high-pass filter (C56, C57, C61, L25 and D25), and amplified by the RF amplifier (Q9). The signal from Q9 is then passed through the tuning circuit (L19, L20, L21 and varicaps D12, D13 and D14) and converted into 45.1MHz by the mixer (Q10). The tuning circuit, which consists of L25, L19, L20, L21, D15, D12, D13 and D14 is controlled by the tracking voltage form the CPU so that it is optimized for the reception frequency. The local signal from the VCO is passed through the buffer (Q11), and supplied to the source of the mixer (Q10). The radio uses the lower side of the superheterodyne system.

2. IF Circuit

The mixer mixes the received signal with the local signal to obtain the sum of and difference between them. The crystal filter (XF1) selects 45.1MHz frequency from the results and eliminates the signals of the unwanted frequencies. The first IF amplifier (Q8) then amplifies the signal of the selected frequency.

3. Demodulator Circuit

After the signal is amplified by the first IF amplifier (Q8), it is input to pin 16 of the demodulator IC (IC4). The second local signal of 45.555MHz, which is oscillated by the internal oscillation circuit in IC4 and crystal (X2). Then, these two signals are mixed by the internal mixer in IC4 and the result is converted into the second IF signal with a frequency of 455kHz. The second IF signal is output from pin 3 of IC4 to the ceramic filter (FL1), where the unwanted frequency band of that signal is eliminated, and the resulting signal is sent back to the IC4 through pin 5.

The second IF signal input via pin 5 is demodulated by the internal limiter amplifier and quadrature detection circuit in IC4, and output as an audio signal through pin 10.

4. Audio Circuit

The audio signal from pin 10 of IC4 is compensated to the audio frequency characteristics in the de-emphasis circuit (R106, R107, C128, C127) and amplified by the AF amplifier (Q27). The signal is then input to pin 2 of the electronic volume (IC6) for volume adjustment, and output from pin 1. The adjusted signal is sent to the audio power amplifier (IC5) through pin 2 to drive the speaker.

5. Squelch Circuit

The signal except for the noise component in AF signal of IC4 is cut by the active filter inside IC. The noise component is amplified and rectified, then converted to the DC voltage to output from pin13 of IC4. The voltage is led to pin 2 of CPU and compared with the setting voltage. The squelch will open if the input voltage is lower than the setting voltage.

2) Transmitter System

1. Modulator Circuit

The audio signal is converted to an electric signal in either the internal or external microphone, and input to the microphone amplifier (IC8). IC8 consists of two operational amplifiers; one amplifier (pins 5, 6, and 7) is composed of pre-emphasis and IDC circuits and the other (pins 1, 2, and 3) is composed of a splatter filter. The maximum frequency deviation is obtained by VR1 and input to the cathode of the varicap of the VCO, to change the electric capacity in the oscillation circuit. This produces the frequency modulation.

2. Power Amplifier Circuit

The transmitted signal is oscillated by the VCO, amplified by the pre-drive IC (IC1) and drive amplifier (Q4), and input to the final amplifier (Q2). The signal is then amplified by the final amplifier (Q2) and led to the antenna switch (D2) and low-pass filter (L5, L3, L2, C24, C11, C10, and C9), where unwanted high harmonic waves are reduced as needed, and the resulting signal is supplied to the antenna.

3. APC Circuit

Part of the transmission power from the low-pass filter is detected by D7, converted to DC, and then amplified by a differential amplifier. The output voltage controls the bias voltage from the source of Q2 and Q4 to maintain the transmission power constant.

3) PLL Synthesizer Circuit

1. PLL

The dividing ratio is obtained by sending data from the CPU (IC9) to pin 2 and sending clock pulses to pin 3 of the PLL IC (IC2). The oscillated signal from the VCO is amplified by the buffer (Q5, Q37) and input to pin 6 of IC2. Each programmable divider in IC2 divides the frequency of the input signal by N according to the frequency data, to generate a comparison frequency of 5 or 6.25kHz.

2. Reference Frequency Circuit

The reference frequency appropriate for the channel steps is obtained by dividing the 21.25MHz reference oscillation (X1) by 4250 or 3400, according to the data from the CPU (IC9). When the resulting frequency is 5kHz, channel steps of 5, 10, 15, 20, 25, 30, and 50kHz are used. When it is 6.25kHz, the 12.5kHz channel step is used.

3. Phase Comparator Circuit

The PLL (IC2) uses the reference frequency, 5 or 6.25kHz. The phase comparator in the IC2 compares the phase of the frequency from the VCO with that of the comparison frequency, 5 or 6.25kHz, which is obtained by the internal divider in IC2.

4. PLL Loop Filter Circuit

If a phase difference is found in the phase comparison between the reference frequency and VCO output frequency, the charge pump output (pin 8) of IC2 generates a pulse signal, which is converted to DC voltage by the PLL loop filter and input to the varicap of the VCO unit for oscillation frequency control.

5. VCO Circuit

A Colpitts oscillation circuit driven by Q3 directly oscillates the desired frequency. The frequency control voltage determined in the CPU (IC9) and PLL circuit is input to the varicaps (D3). This change the oscillation frequency, which is amplified by the VCO buffer (Q5) and output from the VCO unit.

4) CPU and Peripheral Circuits

1. LCD Display Circuit

The CPU turns ON the LCD via segment and common terminals with 1/4 the duty and 1/4 the bias, at the frame frequency is 112.5Hz.

2. Display Lamp Circuit

When the LAMP key is pressed, "H" is output form pin 42 of CPU (IC9) to the bases of Q19, Q24 and Q25.

3. Reset and Backup

When the power form the DC jack or external battery increases from Circuits 0 V to 2.5V or more, "H" level reset signal is output from the reset IC (IC11) to pin 33 of the CPU (IC9), causing the CPU to reset. The reset signal, however, waits at 100, and does not enter the CPU until the CPU clock (X3) has stabilized.

4. S(Signal) Meter Circuit

The DC potential of pin 8 of iC4 is input to pin 1 of the CPU (IC9), converted from an analog to a digital signal, and displayed as the S-meter signal on the LCD.

5. DTMF Encoder (DJ-496)

The CPU (IC9) is equipped with an internal DTMF encoder. The DTMF signal is output from pin 10, through R179 and R180 (for level adjust-ment), and then through the microphone amplifier (IC8), and is sent to the varicap of the VCO for modulation. At the same time, the monitor-ing tone passes through the AF circuit and is output form the speaker.

6. CTCSS Encoder

The CPU (IC9) is equipped with an internal tone encoder. The tone signal (67.0 to 250.3 Hz) is output from pin 9 of the CPU to the varicap (D4) of the VCO for modulation.

7. DCS Encoder

The CPU (IC9) is equipped with an internal DCS code encoder. The code (023 to 754) is output from pin 9 of the CPU to the varicap (D16) of the PLL reference oscillator. When DCS is ON, DCS MUTE circuit (Q12-ON, Q18-ON, Q15-OFF) works. The modulation activates in X1 side only.

8. CTCSS, DCS Decoder

The voice band of the AF output signal from pin 10 of IC4 is cut by sharp active filter IC7 (VCVS) and amplified, then led to pin 4 of CPU. The input signal is compared with the programmed tone frequency code in the CPU. The squelch will open when they match.

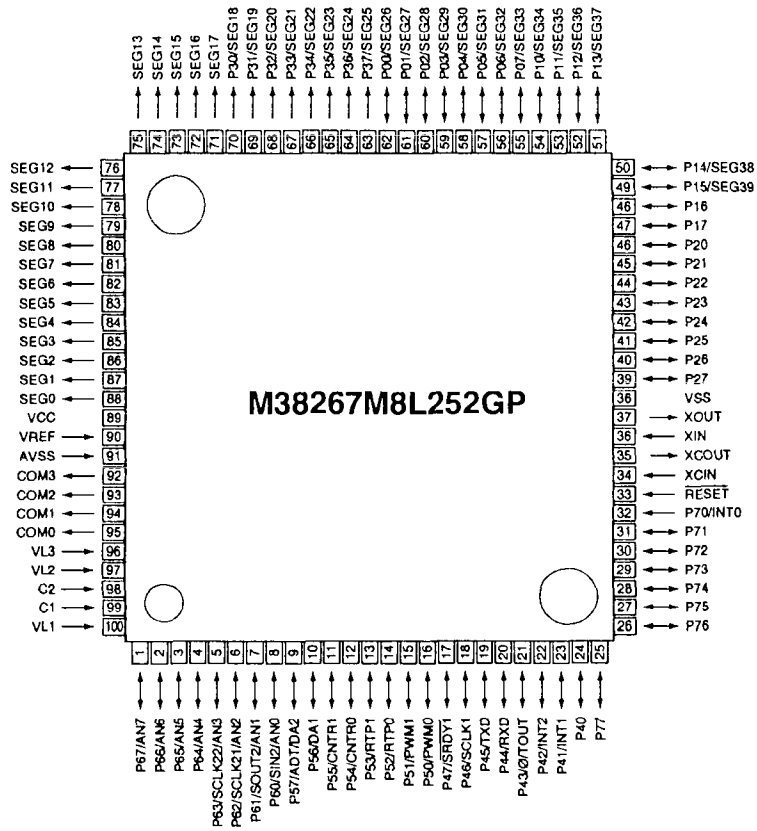
9. Clock Shift

In the unlikely event that CPU clock noise is present on a particular operating frequency programmed into the radio, you can shift the CPU clock frequency to avoid the CPU clock-noise. The output signal from pin 31 of the CPU turns on Q35. Then the oscillation frequency of X3 will be shifted about 300 ppm.

5) M38267M8L252GP (XA0725)

CPU

Terminal Connection
(TOP VIEW)



No.	Pin Name	Function	I/O	PU	Logic	Description
1	P67/AN7	SMT	I	-	A/D	S-meter input
2	P66/AN6	SQL	I	-	A/D	Noise level input for squelch
3	P65/AN5	BAT	I	-	A/D	Low battery detection input
4	P64/AN4	TIN	I	-	A/D	CTCSS tone input/DSC code input
5	P63/SCLK22/AN3	BP1	I	-	A/D	Band plan 1
6	P62/SCLK21/AN2	BP2	I	-	A/D	Band plan 2
7	P61/SOUT2/AN1	DCSW	O	-	Activ high	DCS signal mute
8	P60/SIN2/AN0	F/M/KEY	I	-	A/D	Function/Moniter key input
9	P57/ADT/DA2	CTOUT	O	-	D/A	CTCSS tone output/DCS tone output/Tuning voltage out
10	P56/DA1	DTOUT	O	-	D/A	DTMF output/EVR control output
11	P55/CNTR1	SCL	O	-	Pulse	Serial clock for EEPROM
12	P54/CNTR0	TBST	I/O	*	Pulse/Activ low	Tone burst output
13	P53/RTP1	BP4	I	-	-	Band plan 4
14	P52/RTP0	MUTE	I/O	-	Activ high	Microphone mute
15	P51/PWM3	CLK	O	-	Pulse	Serial clock output for PLL,CTCSS
16	P50/PWM0	DATA	I/O	-	Pulse	Serial data output for PLL,CTCSS, PLL unlock signal input
17	P47/SROY1	TRESET	I/O	-	Activ low/Pulse	Trunking board detection (when PSW is on)/Trunking board reset
18	P46/SCLK1	STBP	O	-	Pulse	Strobe for PLL IC
19	P45/TXD	UTX	O	-	Pulse	UART data transmission output
20	P44/RXD	RTX	I	-	Pulse	UART data reception output
21	P43/Φ/TOUT	BEEP	I/O	-	Pulse/Activ low	Beep tone/Band plan 3(when PSW is on)
22	P42I/NT2	RE2	I	*	Avtiv low	Rotary encoder input
23	P41/INT1	RE1	I	*	Avtiv low	
24	P40	SD	O	-	Avtiv low	Signal detection output
25	P77	PTT	I	-	Activ high	PTT input
26	P76	BP6	I	*	Activ high	Band plan 6
27	P75	P5C	O	-	Activ low	PLL power ON/OFF output
28	P74	T5C	O	-	Activ low	TX power ON/OFF output
29	P73	R5C	O	-	Activ low	RX power ON/OFF output
30	P72	AFP	O	-	Activ low	AF AMP power ON/OFF output
31	P71	CLSFT	O	-	Activ high	CLOCK frequency shift
32	P70/INTO	BU	I	-	Activ low	Backup signal detection input
33	RESET	RESET	I	-	Activ low	Reset input
34	Xcin	Xcin	-	-	-	-
35	Xcout	Xcout	-	-	-	-
36	Xin	Xin	-	-	-	Main clock input
37	Xout	Xout	-	-	-	Main clock output
38	Vss	GND	-	-	-	CPU GND
39	P27	PSW	I	-	Avtiv low	Power switch input
40	P26	SDA	O	-	Pulse	Serial data for EEPROM
41	P25	C5C	O	-	Activ high	C5V power ON/OFF output
42	P24	LAMP	O	-	Activ high	Lamp ON/OFF
43	P23	KI0	I	*	Avtiv low	Key matrix input
44	P22	KI1	I	*	Avtiv low	
45	P21	KI2	I	*	Avtiv low	
46	P20	KI3	I	*	Avtiv low	
47	P17	KO3	O	-	Avtiv low	Key matrix output
48	P16	KO2	O	-	Avtiv low	
49	P15/SEG39	KO1	O	-	Avtiv low	
50	P14/SEG38	KO0	O	-	Avtiv low	
51	P13/SEG37	H/L	O	-	-	Tx power H/L
52	P12/SEG36	DA2	O	-	-	DA converter for output power
53	P11/SEG35	DA1	O	-	-	DA converter for output power
54	P10/SEG34	DA0	O	-	-	DA converter for output power
55	P07/SEG33	EXP	I	*	-	UART line SW/External control port

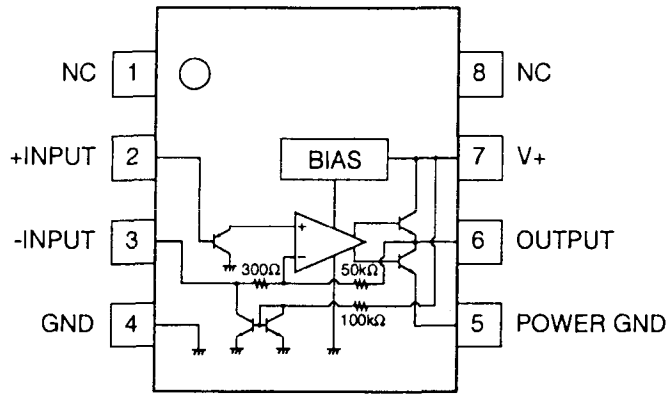
No.	Pin Name	Function	I/O	PU	Logic	Description
56	P06/SEG32	AFC	O	-	Activ high	AF tone control
57	P05/SEG31	S31	O	-	-	LCD segment signal
58	P04/SEG30	S30	O	-	-	
59	P03/SEG29	S29	O	-	-	
60	P02/SEG28	S28	O	-	-	
61	P01/SEG27	S27	O	-	-	
62	P00/SEG26	S26	O	-	-	
63	P37/SEG25	S25	O	-	-	
64	P36/SEG24	S24	O	-	-	
65	P35/SEG23	S23	O	-	-	
66	P34/SEG22	S22	O	-	-	
67	P33/SEG21	S21	O	-	-	
68	P32/SEG20	S20	O	-	-	
69	P31/SEG19	S19	O	-	-	
70	P30/SEG18	S18	O	-	-	
71	SEG17	S17	O	-	-	
72	SEG16	S16	O	-	-	
73	SEG15	S15	O	-	-	
74	SEG14	S14	O	-	-	
75	SEG13	S13	O	-	-	
76	SEG12	S12	O	-	-	
77	SEG11	S11	O	-	-	
78	SEG10	S10	O	-	-	
79	SEG9	S9	O	-	-	
80	SEG8	S8	O	-	-	
81	SEG7	S7	O	-	-	
82	SEG6	S6	O	-	-	
83	SEG5	S5	O	-	-	
84	SEG4	S4	O	-	-	
85	SEG3	S3	O	-	-	
86	SEG2	S2	O	-	-	
87	SEG1	S1	O	-	-	
88	SEG0	S0	O	-	-	
89	Vcc	VDD	-	-	-	CPU power terminal
90	Vref	Vref	-	-	-	AD converter power supply
91	Avss	Avss	-	-	-	AD converter GND
92	COM3	COM3	O	-	-	LCD COM3 output
93	COM2	COM2	O	-	-	LCD COM2 output
94	COM1	COM1	O	-	-	LCD COM1 output
95	COM0	COM0	O	-	-	LCD COM0 output
96	VL3	VL3	-	-	-	LCD power supply
97	VL2	VL2	-	-	-	
98	C2	I	-	-	-	-
99	C1	C1	-	-	-	-
100	VL1	VL1	I	-	A/D	LCD power supply

SEMICONDUCTOR DATA

1) NMJ2070M T1 (XA0210)

Low Voltage Power Amplifier

Equivalent Circuit

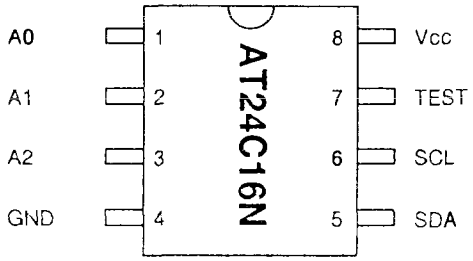


V+=6V, Ta=25±2℃

Parameter	Condition		Symbol	Min.	Typ.	Max.	Unit
Supply voltage			V+	1.8	-	15	V
Idle current	RL=		Iq	-	4	7	mA
Output voltage			Vo	-	2.7	-	V
Input bias current			IB	-	200	-	nA
Output power	THD=10%, f=1kHz	V+=6V, RL=4	Po	0.5	0.6	-	W
		V+=4.5V, RL=4		-	0.32	-	W
		V+=3V, RL=4		-	120	-	mW
		V+=2V, RL=4		-	30	-	mW
	THD=10%, f=1kHz	V+=6V, RL=4		-	500	-	mW
		V+=4.5V, RL=4		-	250	-	mW
Distortion	Po=0.4W, RL=4 ,	f=1kHz	THD	-	0.25	-	%
Voltage gain	f=1kHz		Av	41	44	47	dB
Input impedance	f=1kHz		ZIN	100	-	-	k
Equivalent input noise voltage	Rs=10k	A curve	Vn1	-	2.5	-	μV
		B=22Hz to 22kHz	Vn2	-	3	-	μV
Power supply voltage rejection ratio	f=100Hz, Cx=100μF		SVR	24	30	-	dB
Power gain band width (– 3dB)	RL=8 , Po=250mW		P.B	-	200	-	kHz

2) AT24C16N-10SI-2.7TER (XA0368)

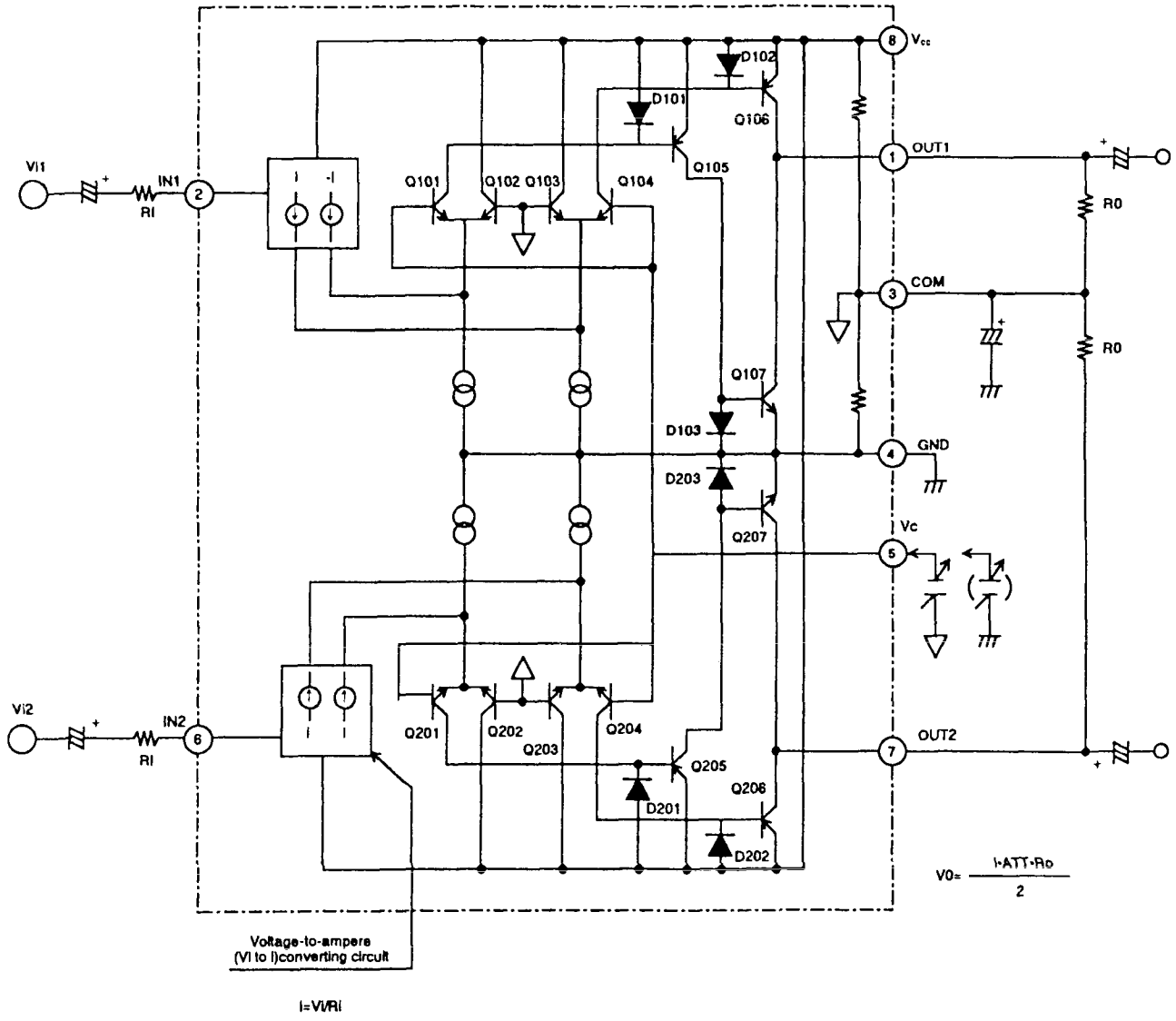
16K bits CMOS Serial EEPROM



Pin Name	Function
A0 to A2	Address inputs
SDA	Serial Data
SCL	Serial Clock
Test	Test Input (GND or Vcc)
NC	No connection

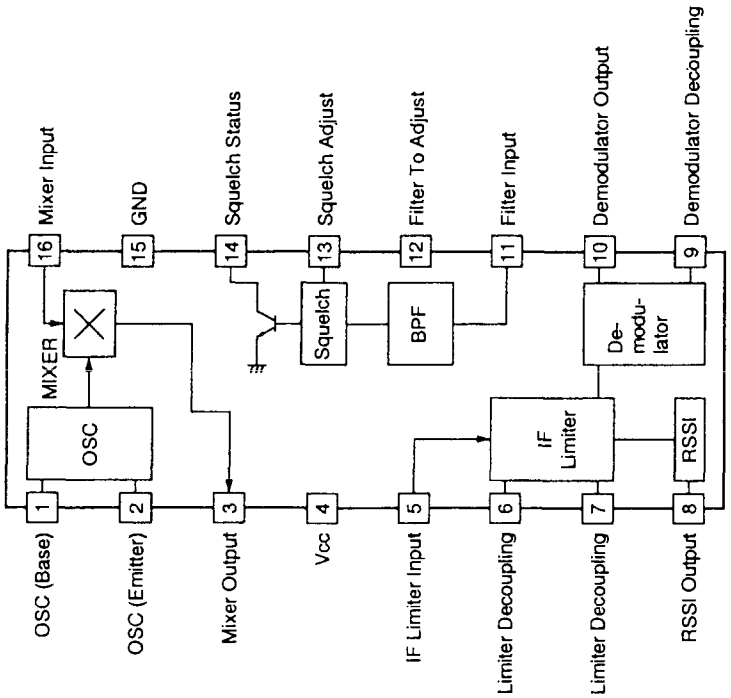
3) M5222FP-600C (XA0385)

Electronic Volume



4) TK14521MTL (XA0515)

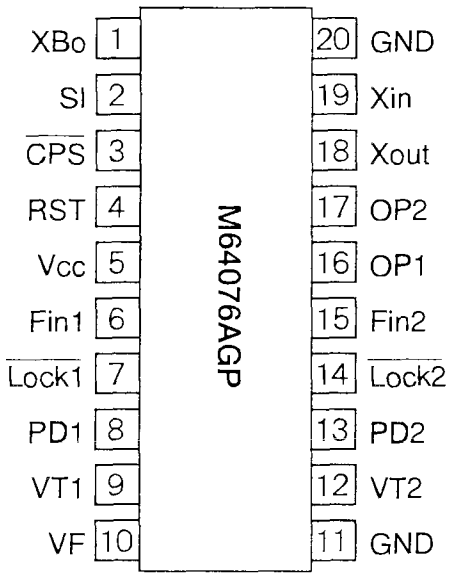
IF System

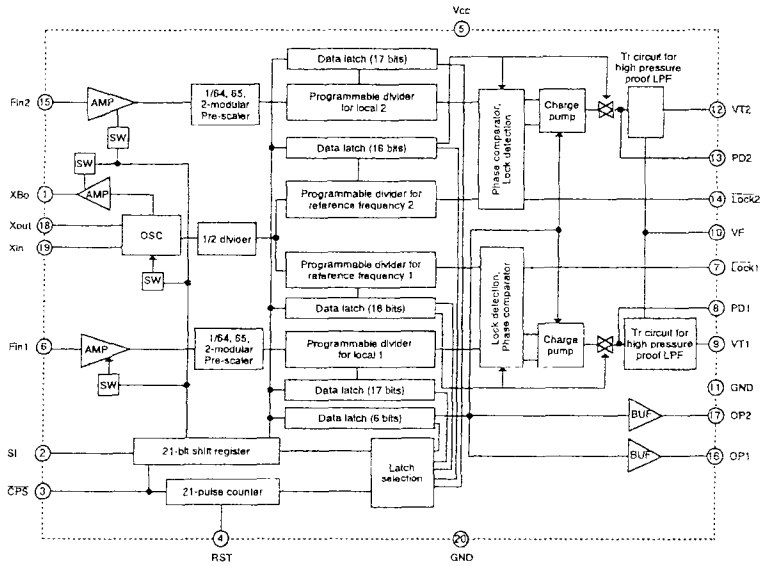


Ta = 25°C, Vcc = 3V, fin = 10.7MHz, fm = 1kHz, Mod = ±3kHz

Parameter	Symbol	Ratings			Unit	Condition
		Min	Typical	Max		
Supply Current	Icc	4.3	7.0	9.8	mA	No signal
Mixer + IF part						
Limiting Sensitivity	Limit	-94	-100	-106	dBm	-3.0dB point
Output Voltage	Vo	200	300	400	mVrms	
Distortion	THD		0.8	2.8	%	
S/N	S/N	40	46	52	dB	
AM Rejection Ratio	AMRR	30	40		dB	AM 30% mod
Mixer Coversion Gain	GM	20	26	32	dB	
Mixer 3rd Intercept point	ICP	-10	-3		dBm	
Mixer Input Impedance	RIM	2.8	3.6	4.4	KΩ	DC Test
Mixer Output Impedance	ROM	1.2	1.5	1.9	KΩ	DC Test
Limiter Input Impedance	RIFIN	1.2	1.5	1.9	KΩ	DC Test
RSSI part						
RSSI Output Current 1	IRSSI 1	41	60	88	μA	-30dBm is input.
RSSI Output Current 2	IRSSI 2	22	40	59	μA	-60dBm is input.
RSSI Output Current 3	IRSSI 3	10	17	25	μA	-100dBm is input.
Squelch BPF part						
Center Frequency 1	fCT 1	10.5	15.0	21.0	kHz	Center frequency setting R=∞
Center Frequency 2	fCT 2	21.0	30.0	39.0	kHz	Center frequency setting R=36kΩ
Center Frequency 3	fCT 3	38.5	55.0	71.5	kHz	Center frequency setting R=6.8kΩ
Squelch Output Current	ISQ	6	10	18	μA	Center frequency setting R=36kΩ 25mVrms is input (Pin11)
Squelch ON Voltage	VSQ(ON)	0.40	0.47	0.54	V	DC voitage is input to pin13.
Squelch OFF Voltage	VSQ(OFF)	0.50	0.57	0.64	V	DC voltage is input to pin13.

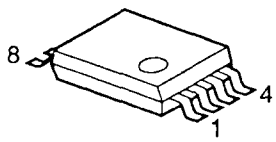
5) M64076AGP (XA0352)

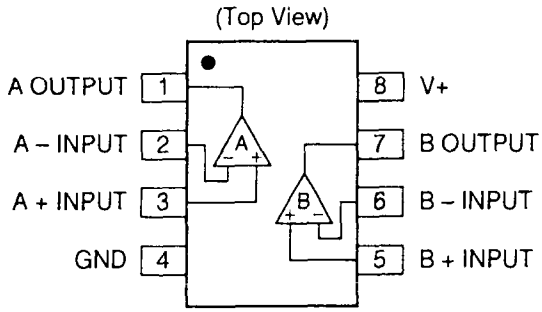




6) NJM2904V-TE1 (XA0573)

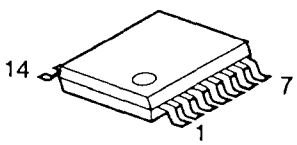
Dual Single Supply Operational Amplifier

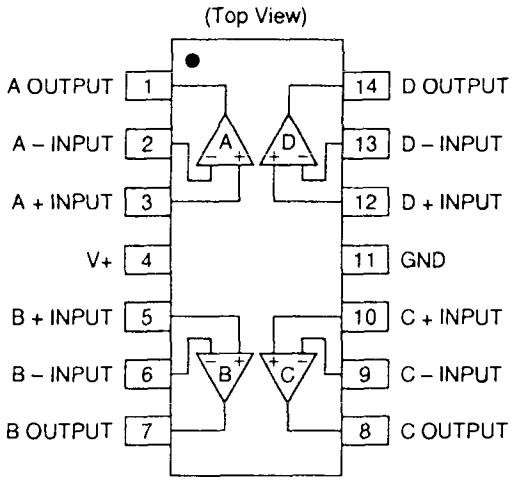




7) NJM2902V-TE1 (XA0596)

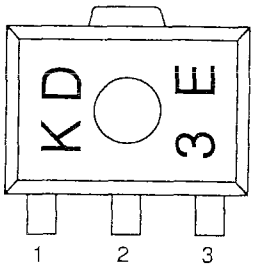
Quad Single Supply Operational Amplifier



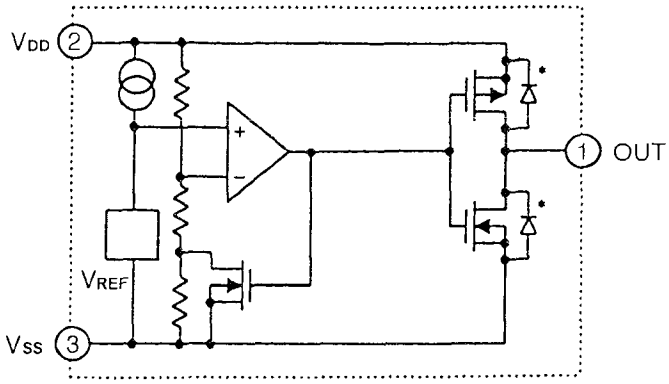


8) S-81350HG-KD-T1 (XA0724)

Top View



1 VOUT
2 GND
3 VIN

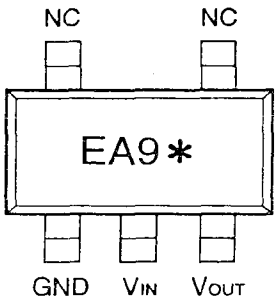


9) S-80845ALMP-EA9-T2 (XA0620)

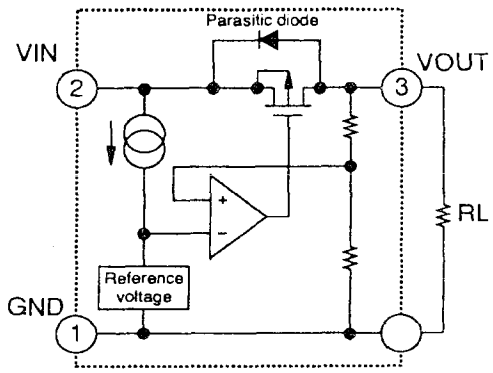
Voltage Regulator

Vin=18V

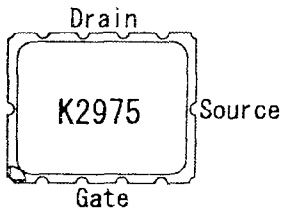
Iout=100mA



* Lot number



10) 2SK2975 (XE0038)



Maximum ratings

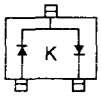
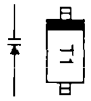
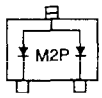
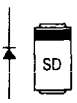
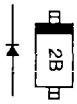
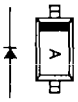
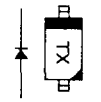
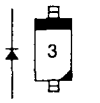
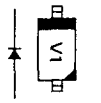
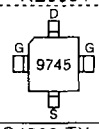
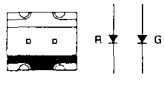
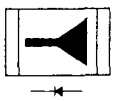
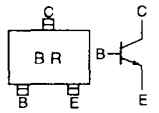
Ratings	Symbol	Value	Unit
Drain-Source Voltage	Vdss	30	V
Total Device Dissipation @Tc=20°C	Pd	10	W
Gate-Source Voltage	Vgss	±20	V
Storage Temperature Range	Tstg	-40~+110	°C
Operating Junction Temperature	Tj	175	°C

Characteristic

Ratings	Symbol	Min	Max	Unit
Drain-Source Breakdown Votage Vds=17, Vgs=0V	Idss	-	10	uA
Zero Gate Voltage Drain Current Vgs=10, Vds=0V	Igss	-	1	uA
Gate Threshold Voltage Vds=9.6, Ids=1mA	Vth	1.0	1.7	V
Out Put Power f=450MHz Pin=1W Vds=9.6V	Po	7.0	-	W
Drain Efficiency f=450MHz Pin=1W Vds=9.7V	ηD	50	-	%

11) Transistor, Diode, and LED Ontline Drawings

Top View

DA204U T106	1SV214 TPH4	MA741WA TX	S3DG7	MA729-TX	U2FWJ44N (TE12R)	MA2S111-TX
XD0130	XD0131	XD0251	XD0261	XD0291	XD0294	XD0323
						
MA2S30400L	HSU277TRF	MA2S30400L	MRF9745T1	BRPG1201W TR	SML-310MTT86	2SC4081 T106R
XD0312	XD0331	XD0312	XE0034	XL0028	XL0036	XT0095
						
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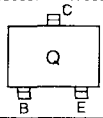
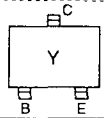
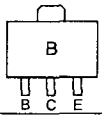
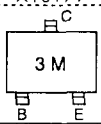
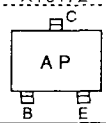
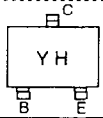
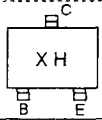
XT0110	XT0135	XT0170	XT0171	XT0172	XU0192	XU0193
						
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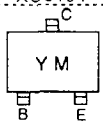	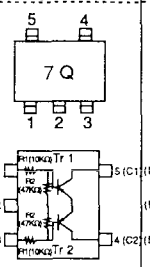	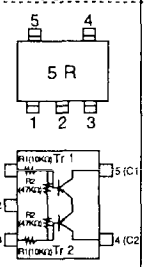	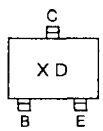	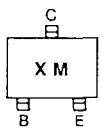	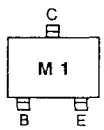	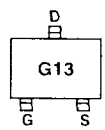
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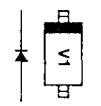
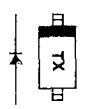
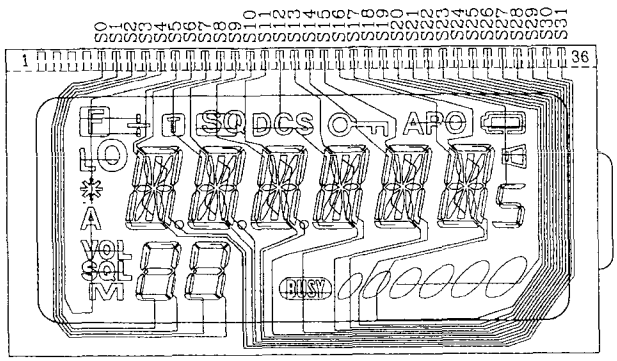
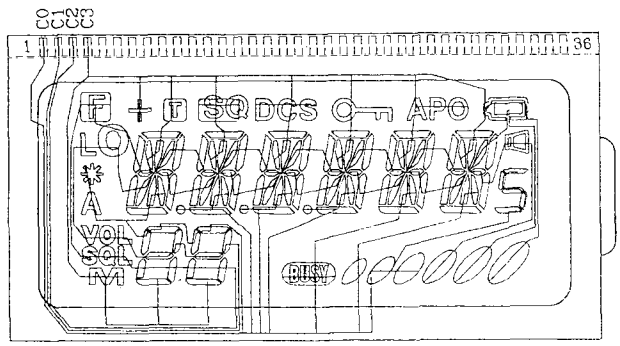
XD0344	XD0326					
						

12) LCD Connection (EL0044)



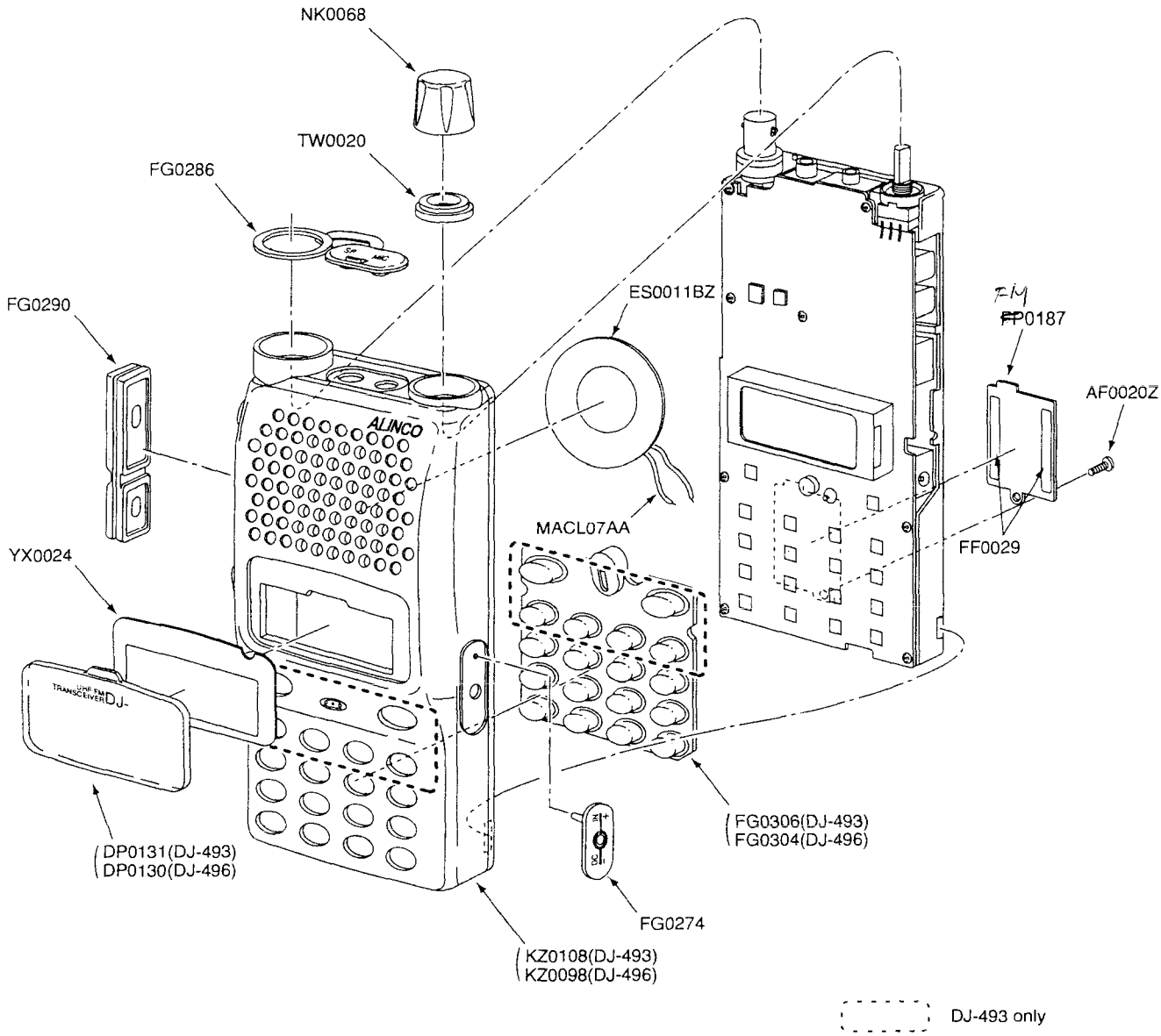
SEGMENT



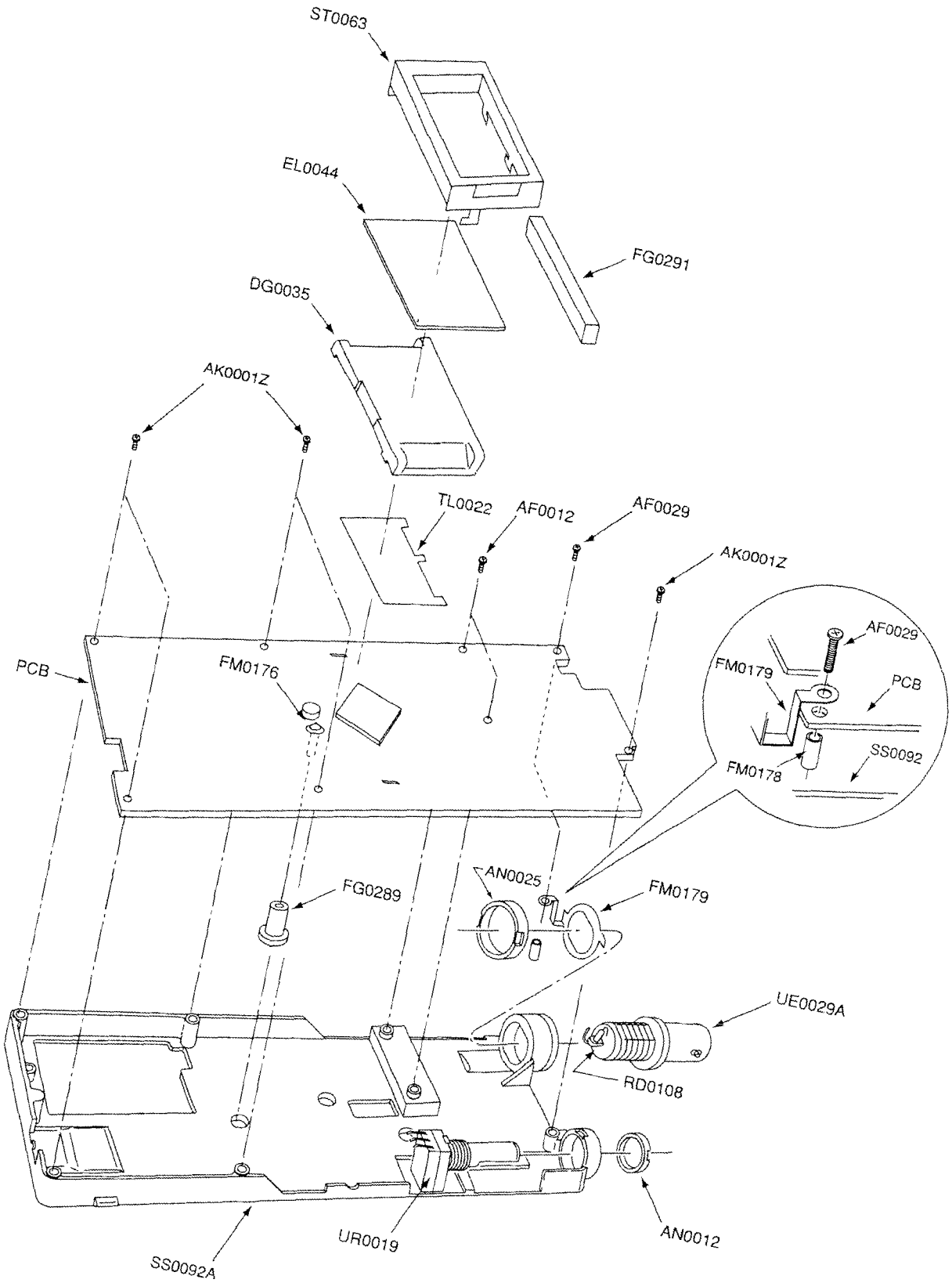
COMMON

EXPLODED VIEW

1) Front View



2) Rear View


ST0063
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DG0035
AK0001Z
TL0022
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AF0029
AK0001Z
PCB
FM0176
AF0029
FM0179
PCB
SS0092
FM0178
FG0289
AN0025
FM0179
UE0029A
RD0108
SS0092A
UR0019
AN0012

PARTS LIST (DJ-493)

DJ-493 Main Unit

Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
C1	CU3031	C1608JB1H471KT-AS	
C2	CU3031	C1608JB1H471KT-AS	
C3	CU3057	C1608CH1H130JT-A	
C4	CU3014	C1608CH1H180JT-AS	
C5	CU3031	C1608JB1H471KT-AS	
C6	CU3031	C1608JB1H471KT-AS	
C7	CU3007	C1608CH1H060CT-A	
C8	CU3031	C1608JB1H471KT-AS	
C9	CU3005	C1608CH1H040CT-AS	
C10	CU3009	C1608CH1H080CT-A	
C11	CU3009	C1608CH1H080CT-A	
C12	CU3001	C1608CH1H0R5CT-AS	
C13	CU3031	C1608JB1H471KT-AS	
C14	CU3001	C1608CH1H0R5CT-AS	
C15	CU3031	C1608JB1H471KT-AS	
C16	CU3031	C1608JB1H471KT-AS	
C17	CS0408	6MCM156MATER	
C18	CU3007	C1608CH1H060CT-A	
C19	CU3035	C1608JB1H102KT-AS	
C20	CU3014	C1608CH1H180JT-AS	
C21	CU3011	C1608CH1H100DT-AS	
C22	NC		
C23	CU3001	C1608CH1H0R5CT-AS	
C24	CU3012	C1608CH1H120JT-AS	
C25	CU3031	C1608JB1H471KT-AS	
C26	CU3031	C1608JB1H471KT-AS	
C27	CU3009	C1608CH1H080CT-A	
C28	CU3001	C1608CH1H0R5CT-AS	
C29	NC		
C30	CU3012	C1608CH1H120JT-AS	
C31	CU3006	C1608CH1H050CT-AS	
C32	CU3002	C1608CH1H010CT-AS	
C33	CU3031	C1608JB1H471KT-AS	
C34	CU3047	C1608JB1H103KT-N	
C35	CU3031	C1608JB1H471KT-AS	
C36	CU3031	C1608JB1H471KT-AS	
C37	CU3017	C1608CH1H330JT-AS	
C38	CU3001	C1608CH1H0R5CT-AS	
C39	NC		
C40	CU3011	C1608CH1H100DT-AS	
C41	CU3031	C1608JB1H471KT-AS	
C42	CU3031	C1608JB1H471KT-AS	
C43	CU3023	C1608CH1H101JT-AS	
C44	CU3031	C1608JB1H471KT-AS	
C45	CU3031	C1608JB1H471KT-AS	
C46	CU3031	C1608JB1H471KT-AS	
C47	CU0108	LMK212BJ105KG	
C48	CU3031	C1608JB1H471KT-AS	
C49	CU3013	C1608CH1H150JT-AS	
C50	NC		
C51	NC		
C52	NC		
C53	CU3031	C1608JB1H471KT-AS	
C54	CU3047	C1608JB1H103KT-N	

Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
C55	CS0408	6MCM156MATER	
C56	CU3015	C1608CH1H220JT-AS	
C57	CU3004	C1608CH1H030CT-AS	
C58	CU3009	C1608CH1H080CT-A	
C59	CU3015	C1608CH1H220JT-AS	
C60	CU3012	C1608CH1H120JT-AS	
C61	CU3005	C1608CH1H040CT-AS	
C62	CU3006	C1608CH1H050CT-AS	
C63	NC		
C64	CU3047	C1608JB1H103KT-N	
C65	CU3004	C1608CH1H030CT-AS	
C66	CU3004	C1608CH1H030CT-AS	
C67	CU3006	C1608CH1H050CT-AS	
C68	CU3023	C1608CH1H101JT-AS	
C69	CU3047	C1608JB1H103KT-N	
C70	CS0407	35MC104MATER	
C71	CU3001	C1608CH1H0R5CT-AS	
C72	CU3035	C1608JB1H102KT-AS	
C73	CU3047	C1608JB1H103KT-N	
C74	CU3031	C1608JB1H471KT-AS	
C75	CU3057	C1608CH1H130JT-A	
C76	CU3015	C1608CH1H220JT-AS	
C77	CU3012	C1608CH1H120JT-AS	
C78	CU3014	C1608CH1H180JT-AS	
C79	CU3002	C1608CH1H010CT-AS	
C80	CS0213	TMCMA1A225MTR	
C81	CU3011	C1608CH1H100DT-AS	
C82	CU0108	LMK212BJ105KG	
C83	CU3031	C1608JB1H471KT-AS	
C84	CU3031	C1608JB1H471KT-AS	
C85	CU0108	LMK212BJ105KG	
C86	CU3016	C1608CH1H270JT-AS	
C87	CU3035	C1608JB1H102KT-AS	
C88	CS0213	TMCMA1A225MTR	
C89	CU3016	C1608CH1H270JT-AS	
C90	CU0108	LMK212BJ105KG	
C91	CU3035	C1608JB1H102KT-AS	
C92	CU3035	C1608JB1H102KT-AS	
C93	CE0392	6MV47UW	
C94	CU3035	C1608JB1H102KT-AS	
C95	CS0408	6MCM156MATER	
C96	CU3111	C1608JB1C104KT-N	
C97	CU0108	LMK212BJ105KG	
C98	CU3047	C1608JB1H103KT-N	
C99	CS0408	6MCM156MATER	
C100	CS0408	6MCM156MATER	
C101	CU3047	C1608JB1H103KT-N	
C102	CU3035	C1608JB1H102KT-AS	
C103	CU0108	LMK212BJ105KG	
C104	CU3035	C1608JB1H102KT-AS	
C105	CS0404	6MCM106MATER	
C106	CU3015	C1608CH1H220JT-AS	
C107	CS0408	6MCM156MATER	
C108	CU3035	C1608JB1H102KT-AS	

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Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
C109	CE0350	16MV100HC	
C110	CU3035	C1608JB1H102KT-AS	
C111	CE0397	MVS16VC47MF46	
C112	CU0108	LMK212BJ105KG	
C113	CU3047	C1608JB1H103KT-N	
C114	CU3035	C1608JB1H102KT-AS	
C115	CE0392	6MV47UW	
C116	CU3111	C1608JB1C104KT-N	
C117	CU3047	C1608JB1H103KT-N	
C118	CS0408	6MCM156MATER	
C119	CU3047	C1608JB1H103KT-N	
C120	CU3035	C1608JB1H102KT-AS	
C121	CS0408	6MCM156MATER	
C122	CU3111	C1608JB1C104KT-N	
C123	CU3111	C1608JB1C104KT-N	
C124	CU3035	C1608JB1H102KT-AS	
C125	CU3051	C1608JB1E223KT-NS	
C126	CU3051	C1608JB1E223KT-NS	
C127	CU3051	C1608JB1E223KT-NS	
C128	CU3111	C1608JB1C104KT-N	
C129	CU3111	C1608JB1C104KT-N	
C130	CU0108	LMK212BJ105KG	
C131	CU3111	C1608JB1C104KT-N	
C132	CE0396	MVS6.3VC100MF46	
C133	CS0408	6MCM156MATER	
C134	CU3111	C1608JB1C104KT-N	
C135	CU3035	C1608JB1H102KT-AS	
C136	CU3035	C1608JB1H102KT-AS	
C137	CU3101	C1608JB1C473KT-NS	
C138	CU3111	C1608JB1C104KT-N	
C139	CU0108	LMK212BJ105KG	
C140	CU3035	C1608JB1H102KT-AS	
C141	CU3035	C1608JB1H102KT-AS	
C142	CU3047	C1608JB1H103KT-N	
C143	CU3035	C1608JB1H102KT-AS	
C144	CU3111	C1608JB1C104KT-N	
C145	CU3025	C1608CH1H151JT-AS	
C146	CU3035	C1608JB1H102KT-AS	
C147	CU3035	C1608JB1H102KT-AS	
C148	CU3111	C1608JB1C104KT-N	
C149	CU3041	C1608JB1H332KT-NS	
C150	CU3111	C1608JB1C104KT-N	
C151	CU3111	C1608JB1C104KT-N	
C152	CU3035	C1608JB1H102KT-AS	
C153	CU3035	C1608JB1H102KT-AS	
C154	CU3038	C1608JB1H182KT-AS	
C155	CU3111	C1608JB1C104KT-N	
C156	CU3035	C1608JB1H102KT-AS	
C157	CU3050	C1608JB1E183KT-NS	
C158	CU0108	LMK212BJ105KG	
C159	CU3051	C1608JB1E223KT-NS	
C160	CU0108	LMK212BJ105KG	
C161	CS0408	6MCM156MATER	
C162	CU3023	C1608CH1H101JT-AS	

Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
C163	CU3044	C1608JB1H562KT-NS	
C164	CU3040	C1608JB1H272KT-NS	
C165	CU3111	C1608JB1C104KT-N	
C166	CU3047	C1608JB1H103KT-N	
C167	CU3101	C1608JB1C473KT-NS	
C168	CU3047	C1608JB1H103KT-N	
C169	CU3047	C1608JB1H103KT-N	
C170	CU3047	C1608JB1H103KT-N	
C171	CU3046	C1608JB1H822KT-NS	
C172	CU3035	C1608JB1H102KT-AS	
C173	CU0108	LMK212BJ105KG	
C174	CS0408	6MCM156MATER	
C175	CU3111	C1608JB1C104KT-N	
C176	CU3014	C1608CH1H180JT-AS	
C177	CU3013	C1608CH1H150JT-AS	
C178	CU0108	LMK212BJ105KG	
C179	CU3035	C1608JB1H102KT-AS	
C180	CU3111	C1608JB1C104KT-N	
C181	CU3049	C1608JB1E153KT-NS	
C182	CU3031	C1608JB1H471KT-AS	
C183	CU3031	C1608JB1H471KT-AS	
C184	NC		
C185	CU3111	C1608JB1C104KT-N	
C186	CU3003	C1608CH1H020CT-AS	
C187	CU3111	C1608JB1C104KT-N	
CN1	NC		
CN2	NC		
CN3	NC		
D1	XD0323	MA2S111-TX	
D2	XD0326	1SV307(TPH3)	
D3	XD0344	1SV311 (TPL3)	
D4	XD0331	HSU277TRF	
D5	XD0331	HSU277TRF	
D7	XD0251	MA741WA TX	
D8	XD0261	S3DG7	
D9	XD0323	MA2S111-TX	
D10	XD0130	DA204U T106	
D11	XD0294	U2FWJ44N(TE12R)	
D12	XD0344	1SV311 (TPL3)	
D13	XD0344	1SV311 (TPL3)	
D14	XD0344	1SV311 (TPL3)	
D15	XD0344	1SV311 (TPL3)	
D16	XD0131	1SV214 TPH4	
D17	XL0036	SML-310MTT86	
D18	XL0036	SML-310MTT86	
D19	XL0028	BRPG1201W TR	
D20	NC		
D21	NC		
D22	NC		
D23	NC		
D24	NC		
D25	XD0332	RB706F-40-T106	
D26	XD0291	MA729-TX	
D27	XD0342	1SS390 TE61	

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Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
FL1	XC0072	ALFCM455F=K	
IC1	XA0449	UPC2710T-E3	
IC2	XA0352	M64076GP	
IC3	XA0724	S81350HG-KD-T1	
IC4	XA0515	TK14521MTL	
IC5	XA0210	NJM2070M T1	
IC6	XA0385	M5222FP-600C	
IC7	XA0596	NJM2902V-TE1	
IC8	XA0573	NJM2904V-TE1	
IC9	XA0725	M38267M8L252GP	
IC10	XA0368	AT24C16N-10SI-2.7TER	
IC11	XA0620	S-80845ALMP-EA9-T2	
JK1	UJ0046	MJ82-1	
JK2	UJ0019	HSJ1493-01-010	
JK3	UJ0022	HSJ1102-01-540	
L1	QC0507	LK16081R0K-T	
L2	QKA45A	MR1.5 4.5T 0.4	
L3	QKA45A	MR1.5 4.5T 0.4	
L4	QC0507	LK16081R0K-T	
L5	QKA25A	MR1.5 2.5T 0.4	
L6	QKA25A	MR1.5 2.5T 0.4	
L7	QC0558	LL1608-FH5N6S	
L8	QC0529	LQN21A18NJ04	
L9	QKA75A	QKA75A	
L10	QC0573	LL1608-FHR10J	
L11	QC0565	LL1608-FH22NJ	
L12	QS40124	0.4-1.2-4T-L	
L13	QC0567	LL1608-FH33NJ	
L14	QC0561	LL1608-FH10NJ	
L15	QC0507	LK16081R0K-T	
L18	QC0507	LK16081R0K-T	
L19	QC0561	LL1608-FH10NJ	
L20	QC0528	LQN21A15NJ04	
L21	QC0528	LQN21A15NJ04	
L22	QC0564	LL1608-FH18NJ	
L23	QC0562	LL1608-FH12NJ	
L24	QC0569	LL1608-FH47NJ	
L25	QC0534	LQN21A47NJ04	
L26	QC0089	NL322522T-181JA	
L27	QC0507	LK16081R0K-T	
LCD1	EL0044	HT-3404	
MIC1	EY0017	OB-27P44	
Q1	XT0135	2SD2216R-TX	
Q2	XE0038	2SK2975-T11-A	
Q3	XT0138	2SC5066-O(TE85L)	
Q4	XE0034	MRF9745T1	
Q5	XT0138	2SC5066-O(TE85L)	
Q6	XU0172	XP1501-TX	
Q7	XT0170	2SB766A-TX	
Q8	XT0172	2SC4618TLP	
Q9	XT0138	2SC5066-O(TE85L)	
Q10	XT0171	2SC4808-TX.AR	
Q11	XT0171	2SC4808-TX.AR	
Q12	XU0193	RN1107 TE85L	

Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
Q13	XT0170	2SB766A-TX	
Q14	XT0170	2SB766A-TX	
Q15	XU0193	RN1107 TE85L	
Q16	XU0172	XP1501-TX	
Q17	XT0110	2SA1036K T146Q	
Q18	XU0193	RN1107 TE85L	
Q19	XU0197	RN1111 (TE85L)	
Q20	XU0172	XP1501-TX	
Q21	XU0161	XP1114(TX)	
Q22	XU0192	RN2107 TE85L	
Q23	XT0135	2SD2216R-TX	
Q24	NC		
Q25	NC		
Q26	XU0193	RN1107 TE85L	
Q27	XT0095	2SC4081 T106R	
Q28	XU0192	RN2107 TE85L	
Q29	XU0192	RN2107 TE85L	
Q30	XU0195	RN1104 TE85L	
Q31	XT0135	2SD2216R-TX	
Q32	XE0029	2SK1580-T1	
Q33	XT0135	2SD2216R-TX	
Q34	XE0029	2SK1580-T1	
Q35	XU0194	RN2111 TE85L	
Q36	XU0197	RN1111 (TE85L)	
Q37	XT0171	2SC4808-TX.AR	
R1	RK3030	MCR03EZHJ221	
R2	RK3034	MCR03EZHJ471	
R3	RK3046	MCR03EZHJ472	
R4	RK3050	MCR03EZHJ103	
R5	RK3030	MCR03EZHJ221	
R6	RK3066	MCR03EZHJ224	
R7	RK3014	MCR03EZHJ100	
R8	RK3048	MCR03EZHJ682	
R9	RK3026	MCR03EZHJ101	
R10	RK3018	MCR03EZHJ220	
R11	RK3050	MCR03EZHJ103	
R12	RK3063	MCR03EZHJ124	
R13	RK3034	MCR03EZHJ471	
R14	RK3026	MCR03EZHJ101	
R16	RK3062	MCR03EZHJ104	
R18	RK3050	MCR03EZHJ103	
R19	RK3058	MCR03EZHJ473	
R20	RK3062	MCR03EZHJ104	
R21	RK3053	MCR03EZHJ183	
R22	RK3056	MCR03EZHJ333	
R23	RK3052	MCR03EZHJ153	
R24	RK3058	MCR03EZHJ473	
R25	RK0002	ERJ6GEYJ120V	
R26	RK3050	MCR03EZHJ103	
R27	RK3034	MCR03EZHJ471	
R28	RK3042	MCR03EZHJ222	
R29	RK3050	MCR03EZHJ103	
R30	NC		
R31	RK3026	MCR03EZHJ101	

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Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
R33	RK3050	MCR03EZHJ103	
R34	RK3062	MCR03EZHJ104	
R35	RK3034	MCR03EZHJ471	
R36	RK3066	MCR03EZHJ224	
R37	RK3050	MCR03EZHJ103	
R38	RK3046	MCR03EZHJ472	
R39	RK3062	MCR03EZHJ104	
R40	RK3063	MCR03EZHJ124	
R41	RK3035	MCR03EZHJ561	
R42	RK3038	MCR03EZHJ102	
R43	RK3050	MCR03EZHJ103	
R44	RK3048	MCR03EZHJ682	
R45	RK3050	MCR03EZHJ103	
R46	RK3032	MCR03EZHJ331	
R47	RK3030	MCR03EZHJ221	
R48	RK3050	MCR03EZHJ103	
R49	RK3058	MCR03EZHJ473	
R50	RK3038	MCR03EZHJ102	
R51	RK3026	MCR03EZHJ101	
R52	RK3074	MCR03EZHJ105	
R53	RK3074	MCR03EZHJ105	
R54	RK3074	MCR03EZHJ105	
R55	RK3074	MCR03EZHJ105	
R57	RK3030	MCR03EZHJ221	
R58	RK3074	MCR03EZHJ105	
R59	RK3066	MCR03EZHJ224	
R60	RK3064	MCR03EZHJ154	
R61	RK3050	MCR03EZHJ103	
R62	RK3058	MCR03EZHJ473	
R63	RK3062	MCR03EZHJ104	
R64	RK3050	MCR03EZHJ103	
R65	RK3058	MCR03EZHJ473	
R66	RK3054	MCR03EZHJ223	
R67	RK3076	MCR03EZHJ155	
R68	RK3076	MCR03EZHJ155	
R69	RK3058	MCR03EZHJ473	
R70	RK3054	MCR03EZHJ223	
R71	RK3042	MCR03EZHJ222	
R72	RK3058	MCR03EZHJ473	
R73	RK3036	MCR03EZHJ681	
R74	RK3050	MCR03EZHJ103	
R75	RK3058	MCR03EZHJ473	
R76	RK3054	MCR03EZHJ223	
R77	RK3050	MCR03EZHJ103	
R78	RK3054	MCR03EZHJ223	
R79	RK3022	MCR03EZHJ470	
R80	RK3062	MCR03EZHJ104	
R81	RK3042	MCR03EZHJ222	
R82	RK3046	MCR03EZHJ472	
R83	RK3050	MCR03EZHJ103	
R84	RK3036	MCR03EZHJ681	
R85	RK3050	MCR03EZHJ103	
R86	RK3038	MCR03EZHJ102	
R87	RK3050	MCR03EZHJ103	

Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
R88	NC		
R89	RK3001	MCR03EZHJ000	
R90	RK3032	MCR03EZHJ331	
R91	RK3062	MCR03EZHJ104	
R92	RK3058	MCR03EZHJ473	
R93	RK3050	MCR03EZHJ103	
R94	RK3050	MCR03EZHJ103	
R95	NC		
R96	RK3032	MCR03EZHJ331	
R97	RK3058	MCR03EZHJ473	
R98	RK3044	MCR03EZHJ332	
R99	RK3050	MCR03EZHJ103	
R100	NC		
R101	NC		
R102	RK3062	MCR03EZHJ104	
R103	RK3050	MCR03EZHJ103	
R104	RK3050	MCR03EZHJ103	
R105	RK3041	MCR03EZHJ182	
R106	RK3052	MCR03EZHJ153	
R107	RK3048	MCR03EZHJ682	
R108	RK3052	MCR03EZHJ153	
R109	RK3050	MCR03EZHJ103	
R110	RK3050	MCR03EZHJ103	
R111	RK3066	MCR03EZHJ224	
R112	RK3054	MCR03EZHJ223	
R113	RK3050	MCR03EZHJ103	
R114	RK3038	MCR03EZHJ102	
R115	RK3062	MCR03EZHJ104	
R116	RK3066	MCR03EZHJ224	
R117	RK3074	MCR03EZHJ105	
R118	RK3014	MCR03EZHJ100	
R119	RK3051	MCR03EZHJ123	
R120	RK3042	MCR03EZHJ222	
R121	NC		
R122	RK3032	MCR03EZHJ331	
R123	RK3062	MCR03EZHJ104	
R124	RK3070	MCR03EZHJ474	
R125	RK1018	ERJ8GEYJ101V	
R126	RK3058	MCR03EZHJ473	
R127	RK3062	MCR03EZHJ104	
R128	RK3062	MCR03EZHJ104	
R129	RK3055	MCR03EZHJ273	
R130	RK3062	MCR03EZHJ104	
R131	RK3055	MCR03EZHJ273	
R132	RK3046	MCR03EZHJ472	
R133	RK3046	MCR03EZHJ472	
R134	RK3046	MCR03EZHJ472	
R135	RK3046	MCR03EZHJ472	
R136	RK3074	MCR03EZHJ105	
R137	RK3046	MCR03EZHJ472	
R138	RK3022	MCR03EZHJ470	
R139	RK3057	MCR03EZHJ393	
R140	RK3058	MCR03EZHJ473	
R141	RK3054	MCR03EZHJ223	

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Ref No.	Parts No.	Parts Name	Ver.
DJ-493 Main Unit			
R142	RK3042	MCR03EZHJ222	
R143	RK3058	MCR03EZHJ473	
R144	RK3061	MCR03EZHJ823	
R145	RK3050	MCR03EZHJ103	
R146	RK3058	MCR03EZHJ473	
R147	RK3045	MCR03EZHJ392	
R148	RK3063	MCR03EZHJ124	
R149	RK3040	MCR03EZHJ152	
R150	RK3038	MCR03EZHJ102	
R151	RK3038	MCR03EZHJ102	
R152	RK3062	MCR03EZHJ104	
R153	RK3065	MCR03EZHJ184	
R154	RK3061	MCR03EZHJ823	
R155	RK3057	MCR03EZHJ393	
R156	RK3049	MCR03EZHJ822	
R157	RK3059	MCR03EZHJ563	
R158	RK3063	MCR03EZHJ124	
R159	RK3052	MCR03EZHJ153	
R160	RK3068	MCR03EZHJ334	
R161	RK3045	MCR03EZHJ392	
R162	RK3062	MCR03EZHJ104	
R163	RK3048	MCR03EZHJ682	
R164	RK3038	MCR03EZHJ102	
R165	RK3050	MCR03EZHJ103	
R166	RK3074	MCR03EZHJ105	
R167	RK3038	MCR03EZHJ102	
R168	RK3046	MCR03EZHJ472	
R169	RK3066	MCR03EZHJ224	
R170	RK3069	MCR03EZHJ394	
R171	RK3072	MCR03EZHJ684	
R172	RK3050	MCR03EZHJ103	
R173	RK3050	MCR03EZHJ103	
R174	RK3050	MCR03EZHJ103	
R175	RK3038	MCR03EZHJ102	
R176	RK3060	MCR03EZHJ683	
R177	RK3067	MCR03EZHJ274	
R178	RK3050	MCR03EZHJ103	
R179	RK3061	MCR03EZHJ823	
R180	RK3055	MCR03EZHJ273	
R181	RK3062	MCR03EZHJ104	
R182	RK3050	MCR03EZHJ103	
R183	RK3049	MCR03EZHJ822	
R184	RK3063	MCR03EZHJ124	
R185	RK3048	MCR03EZHJ682	
R186	RK3038	MCR03EZHJ102	
R187	RK3046	MCR03EZHJ472	
R188	RK3038	MCR03EZHJ102	
R189	RK3046	MCR03EZHJ472	
R190	RK3050	MCR03EZHJ103	
R191	RK3050	MCR03EZHJ103	
R192	RK3066	MCR03EZHJ224	
R193	RK3066	MCR03EZHJ224	
R194	RK3074	MCR03EZHJ105	
R195	RK3038	MCR03EZHJ102	

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DJ-493 Main Unit			
R196	RK3062	MCR03EZHJ104	
R197	RK3062	MCR03EZHJ104	
R198	RK3001	MCR03EZHJ000	
R199	RK3066	MCR03EZHJ224	
R200	RK3066	MCR03EZHJ224	
R201	RK3074	MCR03EZHJ105	
R202	RK3062	MCR03EZHJ104	
R203	RK3062	MCR03EZHJ104	
R204	RK3062	MCR03EZHJ104	
R205	RK3066	MCR03EZHJ224	
R206	RK3074	MCR03EZHJ105	
R207	RK3074	MCR03EZHJ105	
R208	RK3046	MCR03EZHJ472	
R209	RK3038	MCR03EZHJ102	
R211	RK3054	MCR03EZHJ223	E
R212	NC		
R213	RK3038	MCR03EZHJ102	
R214	RK3046	MCR03EZHJ472	
R215	NC		
R216	RK3062	MCR03EZHJ104	
R217	RK3043	MCR03EZHJ272	
R218	RK0107	ERJ6GEY0R00V	
R219	RK3063	MCR03EZHJ124	
R220	RK3066	MCR03EZHJ224	
R221	RK3030	MCR03EZHJ221	
R222	RK3030	MCR03EZHJ221	
R223	NC		
R224	RK3062	MCR03EZHJ104	
R225	NC		
R226	RK3001	MCR03EZHJ000	
R227	RK3040	MCR03EZHJ152	
R229	RK3062	MCR03EZHJ104	
R230	RK3050	MCR03EZHJ103	
R231	RK3062	MCR03EZHJ104	
R232	RK3050	MCR03EZHJ103	
SW17	UU0030	EVQPJ005Q	
SW18	UU0030	EVQPJ005Q	
TC1	CT0012	CTZ3S-10A-W1-P	
VR1	RH0140	MVR22HXBRN472	
VR2	RH0146	MVR22HXBRN473	
VR3	RH0140	MVR22HXBRN472	
W3	MACLH2GG	#30AH1-025-H1	
X1	XQ0112	UM-5 21.250MHZ	
X2	XQ0122	XA10818 UM5 45.555M	
X3	XQ0131	CSA310/3.6864MHZ	
XF1	XF0037	MCF 45N15B5	
	UP0404A	DJ496 INTEGRATED	
	FM0177	RADIATIVE PLATE 195	

DJ-493 Mechanical and Packing Parts

Ref No.	Parts No.	Parts Name	Ver.
DJ-493		Mechanical Parts	
	AF0012	0PH M2+4 FE/ZN3	
	AF0020Z	1P 2X3 NIC	
	AF0029	XQN2+C9FN	
	AK0001Z	BT 3P 2X4 NIC	
	AN0012	RND N7X0.75 BR/B.ZN	
	DG0035	LCD LIGHT	
	DP0131	LCD PANEL DJ493	
	ES0011BZ	036M9014B	
	FF0029	CLOTH 4.0X22	
	FG0274	DC CAP	
	FG0286	KL6766-JACK CAPDJ195	
	FG0289	TERMINAL RUBBER 195	
	FG0290	KL6767-PTT DJ195	
	FG0291	LCD RUBBER CONNECT.	
	FG0306	POWER RUBBER	
	FG0324	LCD CUSHION	
	FM0176	PLUS TERMINAL DJ195	
	FM0178	PIN DJ195	
	FM0179	ANTENNA EARTH DJ195	
	FM0187	REAR PANEL DJ196	
	KZ0108	FRONT CASE DJ193	
W1	MACL07AA	#30A02-070-02	
W2	MPCL07AA	#30P02-070-02	
	NK0068	DIAL KNOB DJ195	
	RD0108	J1/6Z	
	SS0092A	CHASSIS DJ196	
	ST0063	LCD HOLDER DJ195	
	TL0022	REFLECTIVE SHEET 195	
	TS0142	VCO CASE XH655	
	TS0148	VCO SEALED DJP85	
	TW0020	W.PROOF A XH720	
	TZ0049	SILICON DUMPER	
	UE0029A	ANT.CONNECT.DJ460	
RE1	UR0019	RH70N00E20 (RY-6320)	
	YX0024	LCD TAPE DJ195	

Ref No.	Parts No.	Parts Name	Ver.
DJ-493		Packing Parts	
	EA87	Antenna	
	PR0309	CE abel	
	EBP-48N	EBP-48N	
	HK0498	Pacage	
	HM0189	Carton	
	HU0150	Inner C	
	HU0151	Inner 5	
	EDC17	Belt Clip	
	BB0009Y	Strap	
	HP0003	Protection Bag	
	PR0452	FCC home use lavel	T
	PR0447	FCC lavel	T
	PR0433	A lavel	
	DS0388A	Spec.sheet	E
	DS0433	Spec.sheet DJ493T	T
	EDC93	Wallcharger 120V	T
	EDC94	Wallcharger 230V	E
	PH0009A	Warranty	T
	PS0359	Instruction Manual	
	HH0061	Air cap	
	PT0004A	Serial NO Carton	
	PK0082	Schematic Diagram	

ERRATA

	ERROR		CORRECT
Page 21	Ref No.R195 RK3038 MCR03EZHJ102	⇨	NC blank
Page 26	Ref No.R59 RK3063	⇨	Ref No.R59 RK3066

PARTS LIST (DJ-496)

DJ-496 Main Unit

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
C1	CU3031	C1608JB1H471KT-AS	
C2	CU3031	C1608JB1H471KT-AS	
C3	CU3057	C1608CH1H130JT-A	
C4	CU3014	C1608CH1H180JT-AS	
C5	CU3031	C1608JB1H471KT-AS	
C6	CU3031	C1608JB1H471KT-AS	
C7	CU3007	C1608CH1H060CT-A	
C8	CU3031	C1608JB1H471KT-AS	
C9	CU3005	C1608CH1H040CT-AS	
C10	CU3009	C1608CH1H080CT-A	
C11	CU3009	C1608CH1H080CT-A	
C12	CU3001	C1608CH1H0R5CT-AS	
C13	CU3031	C1608JB1H471KT-AS	
C14	CU3001	C1608CH1H0R5CT-AS	
C15	CU3031	C1608JB1H471KT-AS	
C16	CU3031	C1608JB1H471KT-AS	
C17	CS0408	6MCM156MATER	
C18	CU3007	C1608CH1H060CT-A	
C19	CU3035	C1608JB1H102KT-AS	
C20	CU3014	C1608CH1H180JT-AS	
C21	CU3011	C1608CH1H100DT-AS	
C22	NC		
C23	CU3001	C1608CH1H0R5CT-AS	
C24	CU3012	C1608CH1H120JT-AS	
C25	CU3031	C1608JB1H471KT-AS	
C26	CU3031	C1608CH1H0R5CT-AS	
C27	CU3009	C1608CH1H080CT-A	
C28	CU3001	C1608CH1H0R5CT-AS	
C29	NC		
C30	CU3012	C1608CH1H120JT-AS	
C31	CU3006	C1608CH1H050CT-AS	
C32	CU3002	C1608CH1H010CT-AS	
C33	CU3031	C1608JB1H471KT-AS	
C34	CU3047	C1608JB1H103KT-N	
C35	CU3031	C1608JB1H471KT-AS	
C36	CU3031	C1608JB1H471KT-AS	
C37	CU3017	C1608CH1H330JT-AS	
C38	CU3001	C1608CH1H0R5CT-AS	
C39	CU3001	C1608CH1H0R5CT-AS	
C40	CU3011	C1608CH1H100DT-AS	
C41	CU3031	C1608JB1H471KT-AS	
C42	CU3031	C1608JB1H471KT-AS	
C43	CU3023	C1608CH1H101JT-AS	
C44	CU3031	C1608JB1H471KT-AS	
C45	CU3031	C1608JB1H471KT-AS	
C46	CU3031	C1608JB1H471KT-AS	
C47	CU0108	LMK212BJ105KG	
C48	CU3031	C1608JB1H471KT-AS	
C49	CU3013	C1608CH1H150JT-AS	
C50	NC		
C51	NC		
C52	NC		
C53	CU3031	C1608JB1H471KT-AS	
C54	CU3047	C1608JB1H103KT-N	

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
C55	CS0408	6MCM156MATER	
C56	CU3015	C1608CH1H220JT-AS	
C57	CU3004	C1608CH1H030CT-AS	
C58	CU3009	C1608CH1H080CT-A	
C59	CU3015	C1608CH1H220JT-AS	
C60	CU3012	C1608CH1H120JT-AS	
C61	CU3005	C1608CH1H040CT-AS	
C62	CU3006	C1608CH1H050CT-AS	
C63	NC		
C64	CU3047	C1608JB1H103KT-N	
C65	CU3004	C1608CH1H030CT-AS	
C66	CU3004	C1608CH1H030CT-AS	
C67	CU3006	C1608CH1H050CT-AS	
C68	CU3023	C1608CH1H101JT-AS	
C69	CU3047	C1608JB1H103KT-N	
C70	CS0407	35MC104MATER	
C71	CU3001	C1608CH1H0R5CT-AS	
C72	CU3035	C1608JB1H102KT-AS	
C73	CU3047	C1608JB1H103KT-N	
C74	CU3031	C1608JB1H471KT-AS	
C75	CU3057	C1608CH1H130JT-A	
C76	CU3015	C1608CH1H220JT-AS	
C77	CU3012	C1608CH1H120JT-AS	
C78	CU3014	C1608CH1H180JT-AS	
C79	CU3002	C1608CH1H010CT-AS	
C80	CS0213	TMCMA1A225MTR	
C81	CU3011	C1608CH1H100DT-AS	
C82	CU0108	LMK212BJ105KG	
C83	CU3031	C1608JB1H471KT-AS	
C84	CU3031	C1608JB1H471KT-AS	
C85	CU0108	LMK212BJ105KG	
C86	CU3016	C1608CH1H270JT-AS	
C87	CU3035	C1608JB1H102KT-AS	
C88	CS0213	TMCMA1A225MTR	
C89	CU3016	C1608CH1H270JT-AS	
C90	CU0108	LMK212BJ105KG	
C91	CU3035	C1608JB1H102KT-AS	
C92	CU3035	C1608JB1H102KT-AS	
C93	CE0392	6MV47UW	
C94	CU3035	C1608JB1H102KT-AS	
C95	CS0408	6MCM156MATER	
C96	CU3035	C1608JB1H102KT-AS	
C97	CU0108	LMK212BJ105KG	
C98	CU3047	C1608JB1H103KT-N	
C99	CS0408	6MCM156MATER	
C100	CS0408	6MCM156MATER	
C101	CU3047	C1608JB1H103KT-N	
C102	CU3035	C1608JB1H102KT-AS	
C103	CU0108	LMK212BJ105KG	
C104	CU3035	C1608JB1H102KT-AS	
C105	CS0404	6MCM106MATER	
C106	CU3015	C1608CH1H220JT-AS	
C107	CS0408	6MCM156MATER	
C108	CU3035	C1608JB1H102KT-AS	

DJ-496 Main Unit

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
C109	CE0350	16MV100HC	
C110	CU3035	C1608JB1H102KT-AS	
C111	CE0397	MVS16VC47MF46	
C112	CU0108	LMK212BJ105KG	
C113	CU3047	C1608JB1H103KT-N	
C114	CU3035	C1608JB1H102KT-AS	
C115	CE0392	6MV47UW	
C116	CU3111	C1608JB1C104KT-N	
C117	CU3047	C1608JB1H103KT-N	
C118	CS0408	6MCM156MATER	
C119	CU3047	C1608JB1H103KT-N	
C120	CU3035	C1608JB1H102KT-AS	
C121	CS0408	6MCM156MATER	
C122	CU3111	C1608JB1C104KT-N	
C123	CU3111	C1608JB1C104KT-N	
C124	CU3035	C1608JB1H102KT-AS	
C125	CU3051	C1608JB1E223KT-NS	
C126	CU3051	C1608JB1E223KT-NS	
C127	CU3051	C1608JB1E223KT-NS	
C128	CU3111	C1608JB1C104KT-N	
C129	CU3111	C1608JB1C104KT-N	
C130	CU0108	LMK212BJ105KG	
C131	CU3111	C1608JB1C104KT-N	
C132	CE0396	MVS6.3VC100MF46	
C133	CS0408	6MCM156MATER	
C134	CU3111	C1608JB1C104KT-N	
C135	CU3035	C1608JB1H102KT-AS	
C136	CU3035	C1608JB1H102KT-AS	
C137	CU3101	C1608JB1C473KT-NS	
C138	CU3111	C1608JB1C104KT-N	
C139	CU0108	LMK212BJ105KG	
C140	CU3035	C1608JB1H102KT-AS	
C141	CU3035	C1608JB1H102KT-AS	
C142	CU3047	C1608JB1H103KT-N	
C143	CU3035	C1608JB1H102KT-AS	
C144	CU3111	C1608JB1C104KT-N	
C145	CU3025	C1608CH1H151JT-AS	
C146	CU3035	C1608JB1H102KT-AS	
C147	CU3035	C1608JB1H102KT-AS	
C148	CU3111	C1608JB1C104KT-N	
C149	CU3041	C1608JB1H332KT-NS	
C150	CU3111	C1608JB1C104KT-N	
C151	CU3111	C1608JB1C104KT-N	
C152	CU3035	C1608JB1H102KT-AS	
C153	CU3035	C1608JB1H102KT-AS	
C154	CU3038	C1608JB1H182KT-AS	
C155	CU3111	C1608JB1C104KT-N	
C156	CU3035	C1608JB1H102KT-AS	
C157	CU3050	C1608JB1E183KT-NS	
C158	CU0108	LMK212BJ105KG	
C159	CU3051	C1608JB1E223KT-NS	
C160	CU0108	LMK212BJ105KG	
C161	CS0408	6MCM156MATER	
C162	CU3023	C1608CH1H101JT-AS	

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
C163	CU3044	C1608JB1H562KT-NS	
C164	CU3040	C1608JB1H272KT-NS	
C165	CU3111	C1608JB1C104KT-N	
C166	CU3047	C1608JB1H103KT-N	
C167	CU3101	C1608JB1C473KT-NS	
C168	CU3047	C1608JB1H103KT-N	
C169	CU3047	C1608JB1H103KT-N	
C170	CU3047	C1608JB1H103KT-N	
C171	CU3046	C1608JB1H822KT-NS	
C172	CU3035	C1608JB1H102KT-AS	
C173	CU0108	LMK212BJ105KG	
C174	CS0408	6MCM156MATER	
C175	CU3111	C1608JB1C104KT-N	
C176	CU3014	C1608CH1H180JT-AS	
C177	CU3013	C1608CH1H150JT-AS	
C178	CU0108	LMK212BJ105KG	
C179	CU3035	C1608JB1H102KT-AS	
C180	CU3111	C1608JB1C104KT-N	
C181	CU3049	C1608JB1E153KT-NS	
C182	CU3031	C1608JB1H471KT-AS	
C183	CU3031	C1608JB1H471KT-AS	
C184	NC		
C185	CU3111	C1608JB1C104KT-N	
C186	CU3003	C1608CH1H020CT-AS	
C187	CU3111	C1608JB1C104KT-N	
CN1	NC		
CN2	UE0369	AXN49301616	
CN3	NC		
D1	XD0323	MA2S111-TX	
D2	XD0326	1SV307(TPH3)	
D3	XD0344	1SV311 (TPL3)	
D4	XD0331	HSU277TRF	
D5	XD0331	HSU277TRF	
D7	XD0251	MA741WA TX	
D8	XD0261	S3DG7	
D9	XD0323	MA2S111-TX	
D10	XD0130	DA204U T106	
D11	XD0294	U2FWJ44N(TE12R)	
D12	XD0344	1SV311 (TPL3)	
D13	XD0344	1SV311 (TPL3)	
D14	XD0344	1SV311 (TPL3)	
D15	XD0344	1SV311 (TPL3)	
D16	XD0131	1SV214 TPH4	
D17	XL0036	SML-310MTT86	
D18	XL0036	SML-310MTT86	
D19	XL0028	BRPG1201W TR	
D20	XL0036	SML-310MTT86	
D21	XL0036	SML-310MTT86	
D22	XL0036	SML-310MTT86	
D23	XL0036	SML-310MTT86	
D24	NC		
D25	XD0332	RB706F-40-T106	
D26	XD0291	MA729-TX	
D27	XD0342	1SS390 TE61	

DJ-496 Main Unit

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
FL1	XC0072	ALFCM455F=K	
IC1	XA0449	UPC2710T-E3	
IC2	XA0352	M64076GP	
IC3	XA0724	S81350HG-KD-T1	
IC4	XA0515	TK14521MTL	
IC5	XA0210	NJM2070M T1	
IC6	XA0385	M5222FP-600C	
IC7	XA0596	NJM2902V-TE1	
IC8	XA0573	NJM2904V-TE1	
IC9	XA0725	M38267M8L252GP	
IC10	XA0368	AT24C16N-10SI-2.7TER	
IC11	XA0620	S-80845ALMP-EA9-T2	
JK1	UJ0046	MJ82-1	
JK2	UJ0019	HSJ1493-01-010	
JK3	UJ0022	HSJ1102-01-540	
L1	QC0507	LK16081R0K-T	
L2	QKA45A	MR1.5 4.5T 0.4	
L3	QKA45A	MR1.5 4.5T 0.4	
L4	QC0507	LK16081R0K-T	
L5	QKA25A	MR1.5 2.5T 0.4	
L6	QKA25A	MR1.5 2.5T 0.4	
L7	QC0558	LL1608-FH5N6S	
L8	QC0529	LQN21A18NJ04	
L9	QKA75A	QKA75A	
L10	QC0573	LL1608-FHR10J	
L11	QC0565	LL1608-FH22NJ	
L12	QS40124	0.4-1.2-4T-L	
L13	QC0567	LL1608-FH33NJ	
L14	QC0561	LL1608-FH10NJ	
L15	QC0507	LK16081R0K-T	
L18	QC0507	LK16081R0K-T	
L19	QC0561	LL1608-FH10NJ	
L20	QC0528	LQN21A15NJ04	
L21	QC0528	LQN21A15NJ04	
L22	QC0564	LL1608-FH18NJ	
L23	QC0562	LL1608-FH12NJ	
L24	QC0569	LL1608-FH47NJ	
L25	QC0534	LQN21A47NJ04	
L26	QC0089	NL322522T-181JA	
L27	QC0507	LK16081R0K-T	
LCD1	EL0044	HT-3404	
MIC1	EY0017	OB-27P44	
Q1	XT0135	2SD2216R-TX	
Q2	XE0038	2SK2975-T11-A	
Q3	XT0138	2SC5066-O(TE85L)	
Q4	XE0034	MRF9745T1	
Q5	XT0138	2SC5066-O(TE85L)	
Q6	XU0172	XP1501-TX	
Q7	XT0170	2SB766A-TX	
Q8	XT0172	2SC4618TLP	
Q9	XT0138	2SC5066-O(TE85L)	
Q10	XT0171	2SC4808-TX.AR	
Q11	XT0171	2SC4808-TX.AR	
Q12	XU0193	RN1107 TE85L	

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
Q13	XT0170	2SB766A-TX	
Q14	XT0170	2SB766A-TX	
Q15	XU0193	RN1107 TE85L	
Q16	XU0172	XP1501-TX	
Q17	XT0110	2SA1036K T146Q	
Q18	XU0193	RN1107 TE85L	
Q19	XU0197	RN1111 (TE85L)	
Q20	XU0172	XP1501-TX	
Q21	XU0161	XP1114(TX)	
Q22	XU0192	RN2107 TE85L	
Q23	XT0135	2SD2216R-TX	
Q24	XU0197	RN1111 (TE85L)	
Q25	XU0197	RN1111 (TE85L)	
Q26	XU0193	RN1107 TE85L	
Q27	XT0095	2SC4081 T106R	
Q28	XU0192	RN2107 TE85L	
Q29	XU0192	RN2107 TE85L	
Q30	XU0195	RN1104 TE85L	
Q31	XT0135	2SD2216R-TX	
Q32	XE0029	2SK1580-T1	
Q33	XT0135	2SD2216R-TX	
Q34	XE0029	2SK1580-T1	
Q35	XU0194	RN2111 TE85L	
Q36	XU0197	RN1111 (TE85L)	
Q37	XT0171	2SC4808-TX.AR	
R1	RK3030	MCR03EZHJ221	
R2	RK3034	MCR03EZHJ471	
R3	RK3046	MCR03EZHJ472	
R4	RK3050	MCR03EZHJ103	
R5	RK3030	MCR03EZHJ221	
R6	RK3066	MCR03EZHJ224	
R7	RK3014	MCR03EZHJ100	
R8	RK3048	MCR03EZHJ682	
R9	RK3026	MCR03EZHJ101	
R10	RK3018	MCR03EZHJ220	
R11	RK3050	MCR03EZHJ103	
R12	RK3063	MCR03EZHJ124	
R13	RK3034	MCR03EZHJ471	
R14	RK3026	MCR03EZHJ101	
R16	RK3062	MCR03EZHJ104	
R18	RK3050	MCR03EZHJ103	
R19	RK3058	MCR03EZHJ473	
R20	RK3062	MCR03EZHJ104	
R21	RK3053	MCR03EZHJ183	
R22	RK3056	MCR03EZHJ333	
R23	RK3052	MCR03EZHJ153	
R24	RK3058	MCR03EZHJ473	
R25	RK0002	ERJ6GEYJ120V	
R26	RK3043	MCR03EZHJ272	
R27	RK3034	MCR03EZHJ471	
R28	RK3042	MCR03EZHJ222	
R29	RK3050	MCR03EZHJ103	
R30	NC		
R31	RK3050	MCR03EZHJ103	

DJ-496 Main Unit

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
R33	RK3050	MCR03EZHJ103	
R34	RK3062	MCR03EZHJ104	
R35	RK3034	MCR03EZHJ471	
R36	RK3066	MCR03EZHJ224	
R37	RK3050	MCR03EZHJ103	
R38	RK3046	MCR03EZHJ472	
R39	RK3062	MCR03EZHJ104	
R40	RK3063	MCR03EZHJ124	
R41	RK3035	MCR03EZHJ561	
R42	RK3038	MCR03EZHJ102	
R43	RK3050	MCR03EZHJ103	
R44	RK3048	MCR03EZHJ682	
R45	RK3050	MCR03EZHJ103	
R46	RK3032	MCR03EZHJ331	
R47	RK3030	MCR03EZHJ221	
R48	RK3050	MCR03EZHJ103	
R49	RK3058	MCR03EZHJ473	
R50	RK3038	MCR03EZHJ102	
R51	RK3026	MCR03EZHJ101	
R52	RK3074	MCR03EZHJ105	
R53	RK3074	MCR03EZHJ105	
R54	RK3074	MCR03EZHJ105	
R55	RK3074	MCR03EZHJ105	
R57	RK3030	MCR03EZHJ221	
R58	RK3074	MCR03EZHJ105	
R59	RK3063	MCR03EZHJ224	
R60	RK3064	MCR03EZHJ154	
R61	RK3050	MCR03EZHJ103	
R62	RK3058	MCR03EZHJ473	
R63	RK3062	MCR03EZHJ104	
R64	RK3050	MCR03EZHJ103	
R65	RK3058	MCR03EZHJ473	
R66	RK3054	MCR03EZHJ223	
R67	RK3076	MCR03EZHJ155	
R68	RK3076	MCR03EZHJ155	
R69	RK3058	MCR03EZHJ473	
R70	RK3054	MCR03EZHJ223	
R71	RK3042	MCR03EZHJ222	
R72	RK3058	MCR03EZHJ473	
R73	RK3036	MCR03EZHJ681	
R74	RK3050	MCR03EZHJ103	
R75	RK3058	MCR03EZHJ473	
R76	RK3054	MCR03EZHJ223	
R77	RK3050	MCR03EZHJ103	
R78	RK3054	MCR03EZHJ223	
R79	RK3022	MCR03EZHJ470	
R80	RK3062	MCR03EZHJ104	
R81	RK3046	MCR03EZHJ472	
R82	RK3046	MCR03EZHJ472	
R83	RK3050	MCR03EZHJ103	
R84	RK3036	MCR03EZHJ681	
R85	RK3050	MCR03EZHJ103	
R86	RK3038	MCR03EZHJ102	
R87	RK3050	MCR03EZHJ103	

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
R88	NC		
R89	RK3001	MCR03EZHJ000	
R90	RK3032	MCR03EZHJ331	
R91	RK3062	MCR03EZHJ104	
R92	RK3058	MCR03EZHJ473	
R93	RK3050	MCR03EZHJ103	
R94	RK3050	MCR03EZHJ103	
R95	RK3036	MCR03EZHJ681	
R96	RK3032	MCR03EZHJ331	
R97	RK3058	MCR03EZHJ473	
R98	RK3044	MCR03EZHJ332	
R99	RK3050	MCR03EZHJ103	
R100	NC		
R101	RK3036	MCR03EZHJ681	
R102	RK3062	MCR03EZHJ104	
R103	RK3050	MCR03EZHJ103	
R104	RK3050	MCR03EZHJ103	
R105	RK3041	MCR03EZHJ182	
R106	RK3052	MCR03EZHJ153	
R107	RK3048	MCR03EZHJ682	
R108	RK3052	MCR03EZHJ153	
R109	RK3050	MCR03EZHJ103	
R110	RK3050	MCR03EZHJ103	
R111	RK3066	MCR03EZHJ224	
R112	RK3054	MCR03EZHJ223	
R113	RK3050	MCR03EZHJ103	
R114	RK3038	MCR03EZHJ102	
R115	RK3062	MCR03EZHJ104	
R116	RK3066	MCR03EZHJ224	
R117	RK3074	MCR03EZHJ105	
R118	RK3014	MCR03EZHJ100	
R119	RK3051	MCR03EZHJ123	
R120	RK3042	MCR03EZHJ222	
R121	NC		
R122	RK3032	MCR03EZHJ331	
R123	RK3062	MCR03EZHJ104	
R124	RK3070	MCR03EZHJ474	
R125	RK1018	ERJ8GEYJ101V	
R126	RK3058	MCR03EZHJ473	
R127	RK3062	MCR03EZHJ104	
R128	RK3062	MCR03EZHJ104	
R129	RK3055	MCR03EZHJ273	
R130	RK3062	MCR03EZHJ104	
R131	RK3055	MCR03EZHJ273	
R132	RK3046	MCR03EZHJ472	
R133	RK3046	MCR03EZHJ472	
R134	RK3046	MCR03EZHJ472	
R135	RK3046	MCR03EZHJ472	
R136	RK3074	MCR03EZHJ105	
R137	RK3046	MCR03EZHJ472	
R138	RK3022	MCR03EZHJ470	
R139	RK3057	MCR03EZHJ393	
R140	RK3058	MCR03EZHJ473	
R141	RK3054	MCR03EZHJ223	

DJ-496 Main Unit

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
R142	RK3042	MCR03EZHJ222	
R143	RK3058	MCR03EZHJ473	
R144	RK3061	MCR03EZHJ823	
R145	RK3050	MCR03EZHJ103	
R146	RK3058	MCR03EZHJ473	
R147	RK3045	MCR03EZHJ392	
R148	RK3063	MCR03EZHJ124	
R149	RK3040	MCR03EZHJ152	
R150	RK3038	MCR03EZHJ102	
R151	RK3038	MCR03EZHJ102	
R152	RK3062	MCR03EZHJ104	
R153	RK3065	MCR03EZHJ184	
R154	RK3061	MCR03EZHJ823	
R155	RK3057	MCR03EZHJ393	
R156	RK3049	MCR03EZHJ822	
R157	RK3059	MCR03EZHJ563	
R158	RK3063	MCR03EZHJ124	
R159	RK3052	MCR03EZHJ153	
R160	RK3068	MCR03EZHJ334	
R161	RK3046	MCR03EZHJ472	
R162	RK3062	MCR03EZHJ104	
R163	RK3048	MCR03EZHJ682	
R164	RK3038	MCR03EZHJ102	
R165	RK3050	MCR03EZHJ103	
R166	RK3074	MCR03EZHJ105	
R167	RK3038	MCR03EZHJ102	
R168	RK3046	MCR03EZHJ472	
R169	RK3066	MCR03EZHJ224	
R170	RK3069	MCR03EZHJ394	
R171	RK3072	MCR03EZHJ684	
R172	RK3050	MCR03EZHJ103	
R173	RK3050	MCR03EZHJ103	
R174	RK3050	MCR03EZHJ103	
R175	RK3038	MCR03EZHJ102	
R176	RK3060	MCR03EZHJ683	
R177	RK3067	MCR03EZHJ274	
R178	RK3050	MCR03EZHJ103	
R179	RK3061	MCR03EZHJ823	
R180	RK3055	MCR03EZHJ273	
R181	RK3062	MCR03EZHJ104	
R182	RK3050	MCR03EZHJ103	
R183	RK3049	MCR03EZHJ822	
R184	RK3063	MCR03EZHJ124	
R185	RK3048	MCR03EZHJ682	
R186	RK3038	MCR03EZHJ102	
R187	RK3046	MCR03EZHJ472	
R188	RK3038	MCR03EZHJ102	
R189	RK3046	MCR03EZHJ472	
R190	RK3050	MCR03EZHJ103	
R191	RK3050	MCR03EZHJ103	
R192	RK3066	MCR03EZHJ224	
R193	RK3066	MCR03EZHJ224	
R194	RK3074	MCR03EZHJ105	
R195	NC		

Ref No.	Parts No.	Parts Name	Ver.
DJ-496 Main Unit			
R196	RK3062	MCR03EZHJ104	
R197	RK3062	MCR03EZHJ104	
R198	RK3001	MCR03EZHJ000	
R199	RK3066	MCR03EZHJ224	
R200	RK3066	MCR03EZHJ224	
R201	RK3074	MCR03EZHJ105	
R202	RK3062	MCR03EZHJ104	
R203	RK3062	MCR03EZHJ104	
R204	RK3062	MCR03EZHJ104	
R205	RK3066	MCR03EZHJ224	
R206	RK3074	MCR03EZHJ105	
R207	RK3074	MCR03EZHJ105	
R208	RK3046	MCR03EZHJ472	
R209	RK3038	MCR03EZHJ102	
R210	NC		
R211	RK3054	MCR03EZHJ223	E
R212	NC		
R213	NC		
R214	RK3046	MCR03EZHJ472	
R215	NC		
R216	RK3062	MCR03EZHJ104	
R217	RK3043	MCR03EZHJ272	
R218	RK0107	ERJ6GEYJ0R00V	
R219	RK3063	MCR03EZHJ124	
R220	RK3066	MCR03EZHJ224	
R221	RK3030	MCR03EZHJ221	
R222	RK3030	MCR03EZHJ221	
R223	NC		
R224	RK3062	MCR03EZHJ104	
R225	NC		
R226	RK3001	MCR03EZHJ000	
R227	RK3040	MCR03EZHJ152	
R228	NC		
R229	RK3062	MCR03EZHJ104	
R230	RK3050	MCR03EZHJ103	
R231	RK3062	MCR03EZHJ104	
R232	RK3050	MCR03EZHJ103	
SW17	UU0030	EVQPJ005Q	
SW18	UU0030	EVQPJ005Q	
TC1	CT0012	CTZ3S-10A-W1-P	
VR1	RH0140	MVR22HXBRN472	
VR2	RH0146	MVR22HXBRN473	
VR3	RH0140	MVR22HXBRN472	
W3	MACLH2GG	#30AH1-025-H1	
X1	XQ0112	UM-5 21.250MHZ	
X2	XQ0122	XA10818 UM5 45.555M	
X3	XQ0131	CSA310/3.6864MHZ	
XF1	XF0037	MCF 45N15B5	
	UP0404A	DJ496 INTEGRATED	

DJ-496 Mechanical and Packing Parts

Ref No.	Parts No.	Parts Name	Ver.
DJ-496		Mechanical Parts	
	AF0012	0PH M2+4 FE/ZN3	
	AF0020Z	1P 2X3 NIC	
	AF0029	XQN2+C9FN	
	AK0001Z	BT 3P 2X4 NIC	
	AN0012	RND N7X0.75 BR/B.ZN	
	DG0035	LCD LIGHT	
	DP0130	LCD PANEL DJ496	
	ES0011BZ	036M9014	
	FF0029	CLOTH 4.0X22	
	FG0274	DC CAP	
	FG0286	KL6766-JACK CAPDJ195	
	FG0289	TERMINAL RUBBER 195	
	FG0290	KL6767-PTT DJ195	
	FG0291	LCD RUBBER CONNECT.	
	FG0304	16KEY RUBER DJ196	
	FM0176	PLUS TERMINAL DJ195	
	FM0177	RADIATIVE PLATE 195	
	FM0178	PIN DJ195	
	FM0179	ANTENNA EARTH DJ195	
	FM0187	REAR PANEL DJ196	
	KZ0098	FRONT CASE DJ195	
W1	MACL07AA	#30A02-070-02	
W2	MPCL07AA	#30P02-070-02	
	NK0068	DIAL KNOB DJ195	
	RD0108	J1/6Z	
	SS0092A	CHASSIS DJ196	
	ST0063	LCD HOLDER DJ195	
	TL0022	REFLECTIVE SHEET 195	
	TS0142	VCO CASE XH655	
	TS0148	VCO SEALED DJP85	
	TW0020	W.PROOF A XH720	
	TZ0049	SILICON DUMPER	
	UE0029A	ANT.CONNECT.DJ460	
RE1	UR0019	RH70N00E20 (RY-6320)	
	YX0024	LCD TAPE DJ195	

Ref No.	Parts No.	Parts Name	Ver.
DJ-496		Packing Parts	
	EA87	Antenna	T, E
	PR0309	CE abel	
	EBP-48N	EBP-48N	
	HK0496	Pacage	
	HM0189	Carton	
	HU0150	Inner C	
	HU0151	Inner 5	
	EDC17	Belt Clip	
	BB0009Y	Strap	
	HP0003	Protection Bag	
	PR0447	FCC lavel	T
	PR0433	A lavel	
	DS0388A	Spec.sheet	E
	DS0431	Spec.sheet DJ496T	T
	EDC93	Wallcharger 120V	T
	EDC94	Wallcharger 230V	E
	PH0009A	Warranty	T
	PS0358	Instruction Manual	
	HH0061	Air cap	
	PT0004A	Serial NO Carton	
	PK0080	Schematic Diagram	
	EA88	Antenna	TA2

ADJUSTMENT

1) Required Test Equipment

The following items are required to adjust radio parameters:

1. Regulated power supply

Supply voltage:	5-14V DC
Current:	3A or more

2. Digital multimeter

Voltage range:	FS = Approx. 20V
Current:	10A or more
input resistance:	High impedance

3. Oscilloscope

Measurable frequency:	Audio frequency

4. Audio dummy load

Impedance:	8Ω
Dissipation:	1W or more
Jack:	3.5mmϕ

5. SSG

Output frequency:	500MHz or more
Output level:	-20dBu/0.1uV -120dBu/1V
Modulation:	AM/FM

6. Spectrum Analyzer

Measuring range:	Up to 2GHz or more

7. Power meter

Measurable frequency:	Up to 500MHz
Impedance:	50Ω, unbalanced
Measuring range:	0.1W -10W

8. Audio volmeter

Measurable frequency:	Up to 100kHz
Sensitivity:	1mV to 10V

9. Audio generator

Output frequency:	67Hz to 10kHz
Output impedance:	600Ω, unbalanced

10.Distortion meter/SINAD meter

Measurable frequency:	1kHz
Input level:	Up to 40dB
Distortion:	1% - 100%

11.Frequency counter

Measurable frequency:	Up to 500MHz
Measurable stability:	Approx. +/-0.1ppm

12.Linear detector

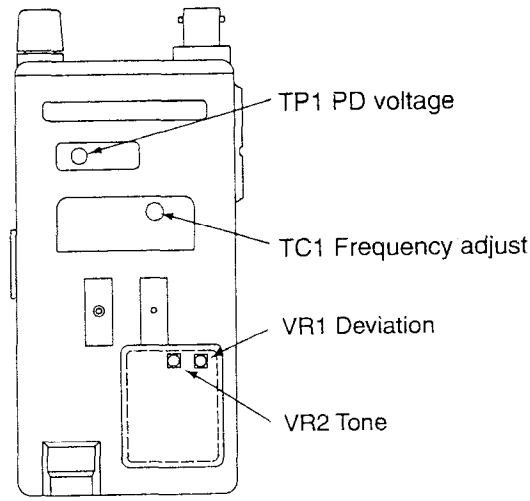
Measurable frequency:	Up to 500MHz
Characteristics:	Flat
CN:	60dB or more

Note

- Standard modulation: 1kHz +/-3.5kHz/DEV
- Reference sensitivity: 12dB SiNAD
- Specified audio output leve: 200mW at 8Ω
- Standard audio output level: 50mW at 8Ω
- Use an RF cable (3D2W:1m) for test equipment.
- Attach a fuse to the RF test equipment.
- All SSG outputs are indicated by EMF.
- Supply voltage for the transceiver: 13.8VDC

2) Adjustment Mode

The DJ-493/496 does not require a serviceperson to manipulate the components on the printed-circuit board, except the trimmer when adjusting reference frequency and deviation.Most of the adjustments for the transceiver are made by using the keys on it while the unit is in the adjustment mode.Because the adjustment mode temporarily uses the channels, frequency must be set on each channel before adjustments can be made.For instructions on how to program the channels, see the "DJ-493/496 INSTRUCTION MANUAL" which came with the product.In consideration of the radio environment, the frequency on each channel must be near the value (+/-1MHz) listed in the table below.To enter the adjustment mode, set key lock and input 490217(DJ493: F key one time, VOL key one time, SQL key two times, KL key one time, VM key two times.).Decimal point at 100MHz and 10MHz appears in LCD. (To release the mode, same manner to enter the adjustment mode.)



Channel frequencies used in the adjustment mode

Memory Channel	Channel function	Frequency	
		E	T
1	Reference frequency adjustment	435 MHz	445 MHz
2	High power adjustment	435 MHz	445 MHz
3	Low power adjustment	435 MHz	445 MHz
4	Minimum frequency sensitivity adjustment	430 MHz	430 MHz
5	Medium frequency sensitivity adjustment	435 MHz	445 MHz
6	Maximum frequency sensitivity adjustment	439.9875 MHz	449.995 MHz
7	S-meter (1) adjustment	435 MHz	445 MHz
8	S-meter (FULL) adjustment	435 MHz	445 MHz
9	Deviation	435 MHz	445 MHz
10	DTMF (1) test (DJ-496)	435 MHz	445 MHz
11	DTMF (D) test (DJ-496)	435 MHz	445 MHz
13	Tone 88.5 Hz test	435 MHz	445 MHz
15	DCS code 255 test	435 MHz	445 MHz
16	Tone burst test	435 MHz	445 MHz
17	Aging (Not required to use)	435 MHz	445 MHz

Reference Frequency Adjustment

1. In the adjustment mode, select channel 1 by rotating the main tuning dial.
2. Press the (PTT) key to start transmission.
3. Rotate TC1 on the Main board until the value on the frequency counter matches the one displayed on the LCD.
4. On 435.00MHz measure TP1 near the VCO and to obtain 0.8V±0.1V (If the frequency display is flashing, the PLL is unlocked.)

High Power Adjustment

1. In the adjustment mode, select channel 2 by rotating the main tuning dial.
2. Hold down the (FUNC) key and press the H/L key to enter the high power mode. ("L" at the upper--left of the display disappears.)
3. Hold down the (PTT) key to start transmission.
4. While watching the reading of the TX power meter, set the output power to the value closest to 5 W by rotating the main tuning dial.
5. When the (PTT) key is released, the output power at that time will be stored as the high power setting.

Low Power Adjustment

1. In the adjustment mode, select channel 3 by rotating the main tuning dial.
2. Hold down the (FUNC) key and press the H/L key to enter the high power mode. ("L" appears at the upper-left of the display.)
3. Hold down the (PTT) key to start transmission.
4. While watching the reading of the TX power meter, set the output power to the value closest to 0.8 W by rotating the main tuning dial.
5. When the (PTT) key is released, the output power at that time will be stored as the low power setting.

Minimum Frequency Sensitivity Adjustment

See "Note on Adjusting the Sensitivity" later in this section.

1. In the adjustment mode, select channel 4 by rotating the main tuning dial.
2. Set the minimum frequency sensitivity rotating the main tuning dial, while F appears after the (FUNC) key is pressed.

Medium Frequency Sensitivity Adjustment

See ìNote on Adjusting the Sensitivityî later in this section.

1. In the adjustment mode, select channel 5 by rotating the main tuning dial.
2. Set the medium frequency sensitivity rotating the main tuning dial, while F appears after the (FUNC) key is pressed.

Maximum Frequency Sensitivity Adjustment

See "Note on Adjusting the Sensitivity" later in this section.

1. In the adjustment mode, select channel 6 by rotating the main tuning dial.
2. Set the maximum frequency sensitivity rotating the main tuning dial, while F appears after the (FUNC) key pressed.

S-meter (1) Adjustment

1. In the adjustment mode, select channel 7 by rotating the main tuning dial. The S-meter will show a single circle (●)
2. Enter "0"dBu(EMF) with the transceiver tester (SSG).
3. Press the F key. The transceiver beeps indicating the new setting has been stored successfully.

S-meter (FULL)

1. In the adjustment mode, select channel 8 by rotating the main tuning dial. The S-meter will show all six circles (●●●●●●)
2. Enter "+20"dBu (EMF) with the transceiver tester (SSG).
3. Press the (F) key. The transceiver beeps indicating the new setting has been stored successfully.

Deviation

1. In the adjustment mode, select channel 9 by rotating the main tuning dial.
2. Input a 50mVrms, 1KMz signal with your transceiver tester through the external microphone jack.
3. With the tester, put the transceiver in the transmission mode.
4. Rotate the VR1 on the printed-curcuit board of the transceiver until the deviation is set to 4.5KHz.

DTMF (1) Test (DJ-496)

This function is only for checking the DTMF code, not adjusting it.

1. In the adjustment mode, select channel 10 by rotating the main tuning dial.
2. Press the (PTT) key. DTMF code "1" is automatically sent and you will hear the monitoring tone from the speaker.
3. Check the deviation with the transceiver tester.

DTMF (D) Test (DJ-496)

1. In the adjustment mode, select channel 11 by rotating the main tuning dial.
2. Press the (PTT) key. DTMF code "D" is automatically sent and you will hear the monitoring tone from the speaker.
3. Check the deviation with the transceiver tester.

Tone 88.5Hz

1. In the adjustment mode, select channel 13 by rotating the main tuning dial.
2. Press the (PTT) key. An 88.5Hz tone is automatically sent.
3. Rotate the VR2 on the printed-circuit board of the transceiver until the deviation is set to 0.9kHz (T) or 0.8kHz (E).

DCS Code 225 Test

1. In the adjustment mode, select channel 15 by rotating the main tuning dial.
2. Press the (PTT) key. An 255 DCS code is automatically sent.
3. Check the deviation with the transceiver tester.

Tone Burst Test

This function is only for checking the tone burst, not adjusting it.

1. In the adjustment mode, select channel 16 by rotating the main tuning dial.
2. Press the (PTT) key. An 1750Hz tone burst is automatically sent.
3. Check the deviation with the transceiver tester.

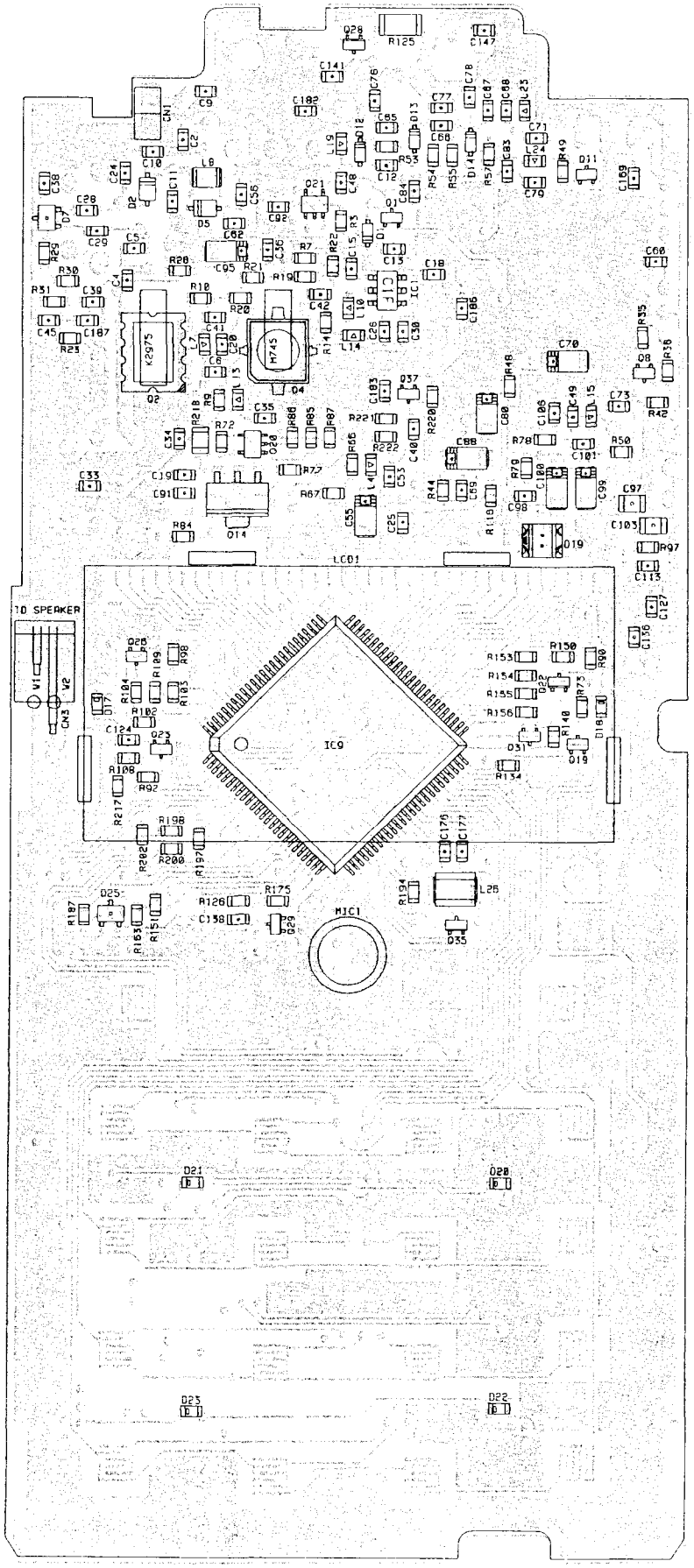
Aging

Perform this aging test only when necessary.

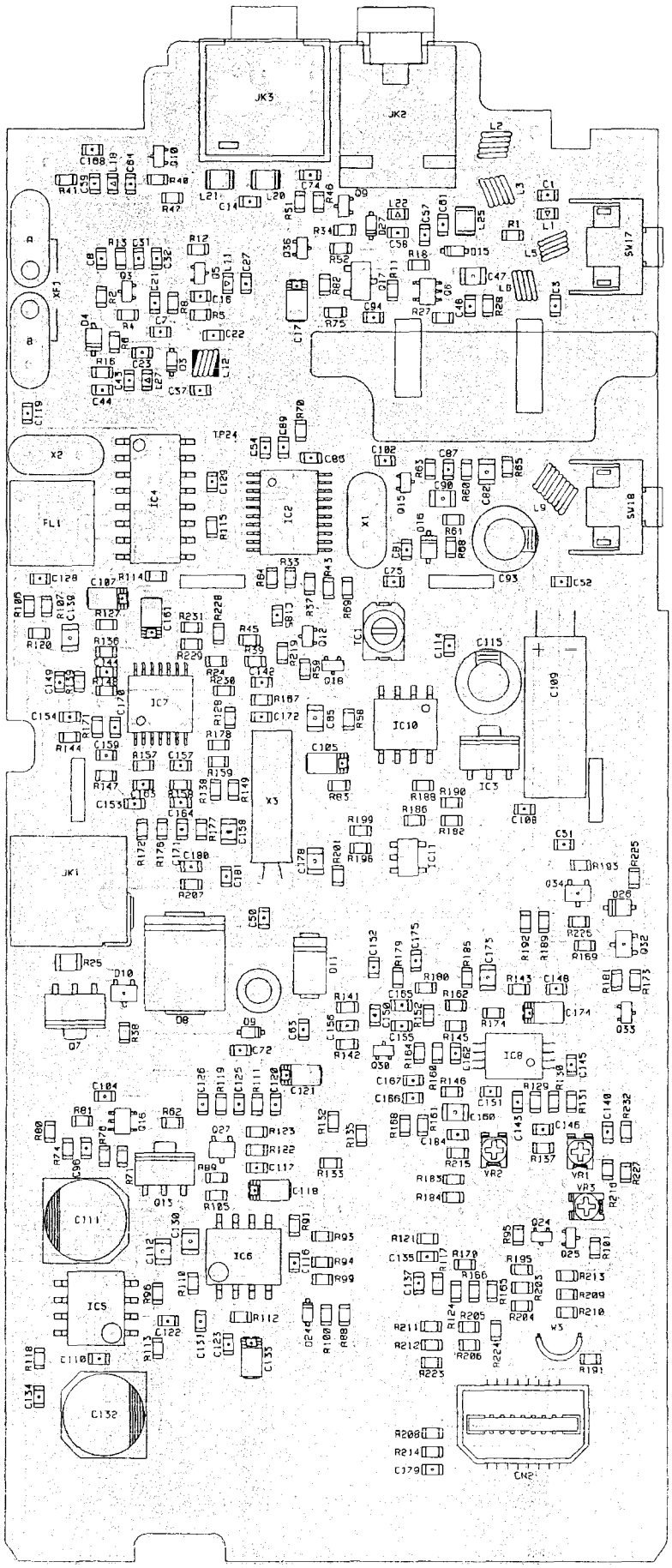
1. In the adjustment mode, select channel 17 by rotating the main tuning dial. The transceiver automatically repeaters transmission for a minute and reception for another minute.

PC BOARD VIEW (DJ-493/DJ-496)

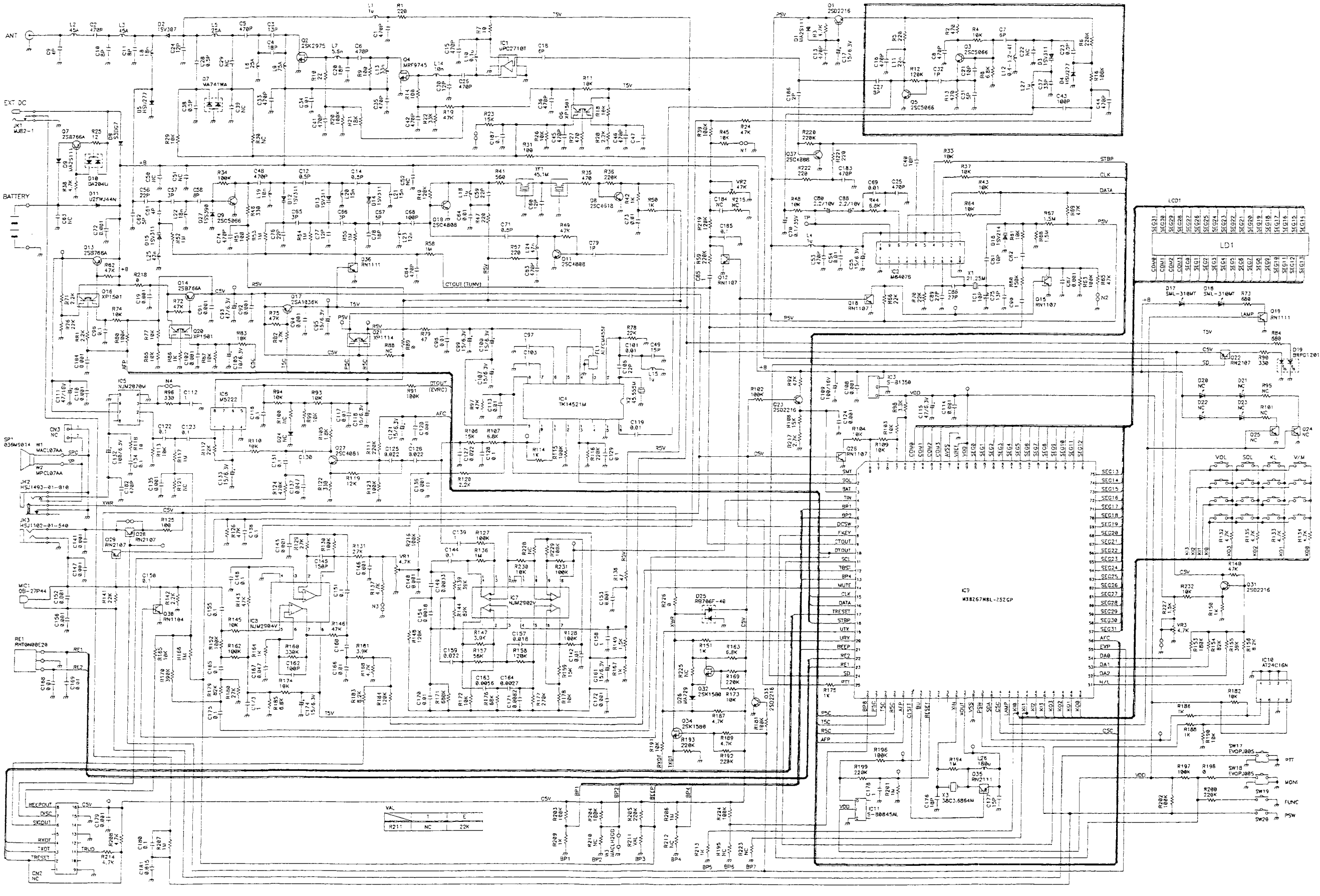
MAIN SIDE A



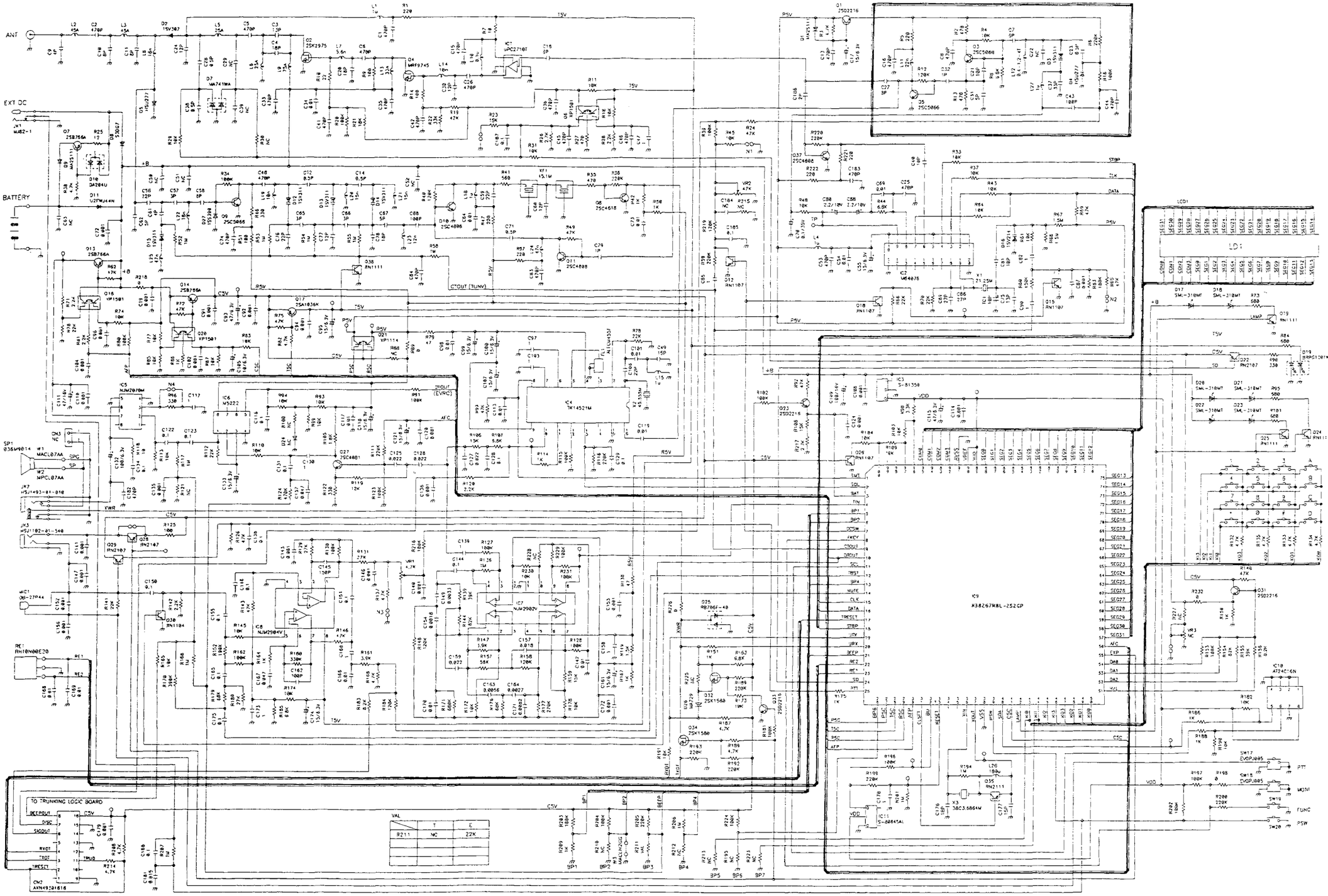
MAIN SIDE B


JK3
JK2
SW17
SW18
X2
FL1
IC4
IC2
X1
IC1
IC7
IC10
IC3
X3
JK1
IC11
IC8
IC6
IC5
CN2

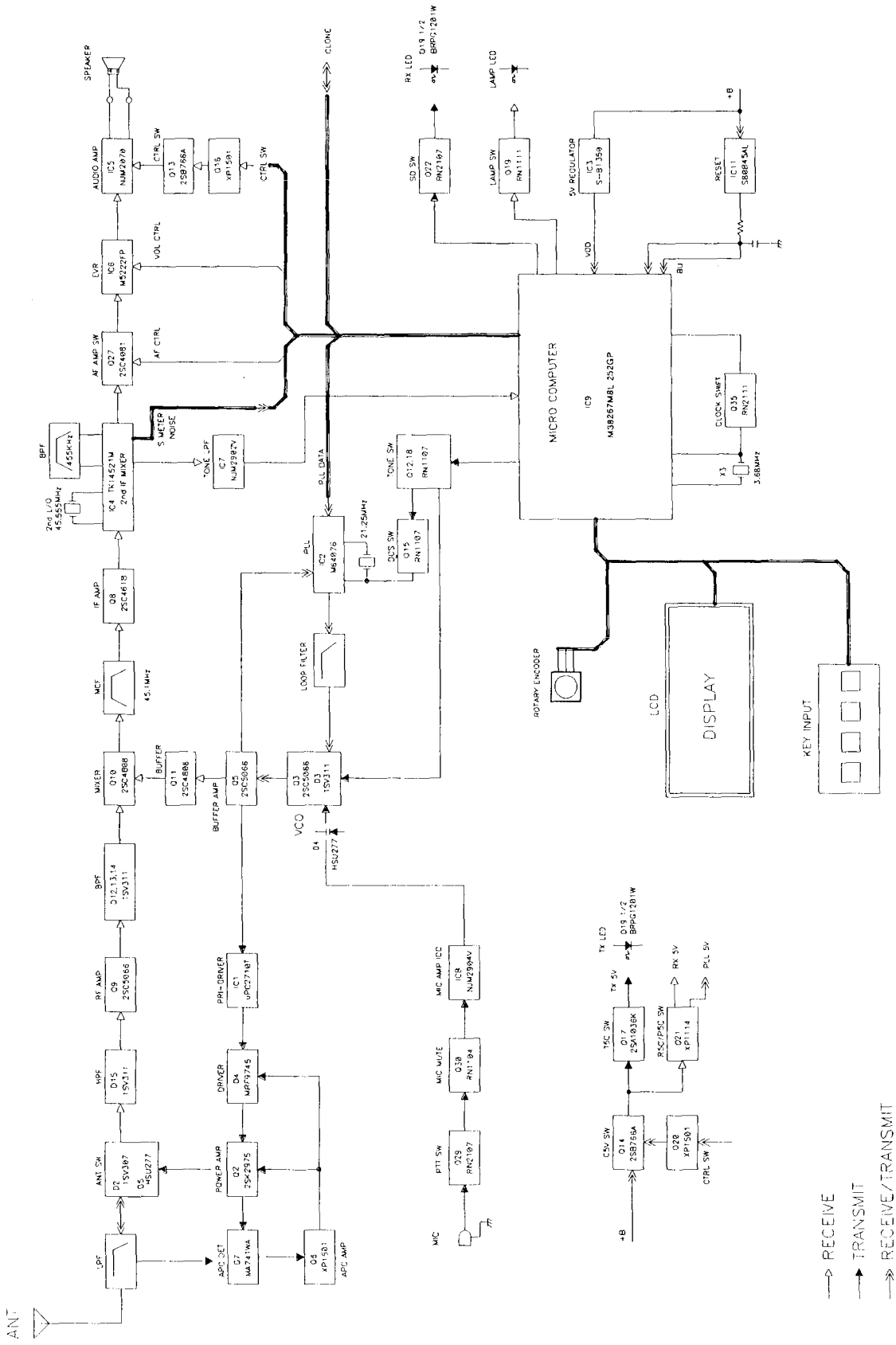
SCHEMATIC DIAGRAM (DJ-493)

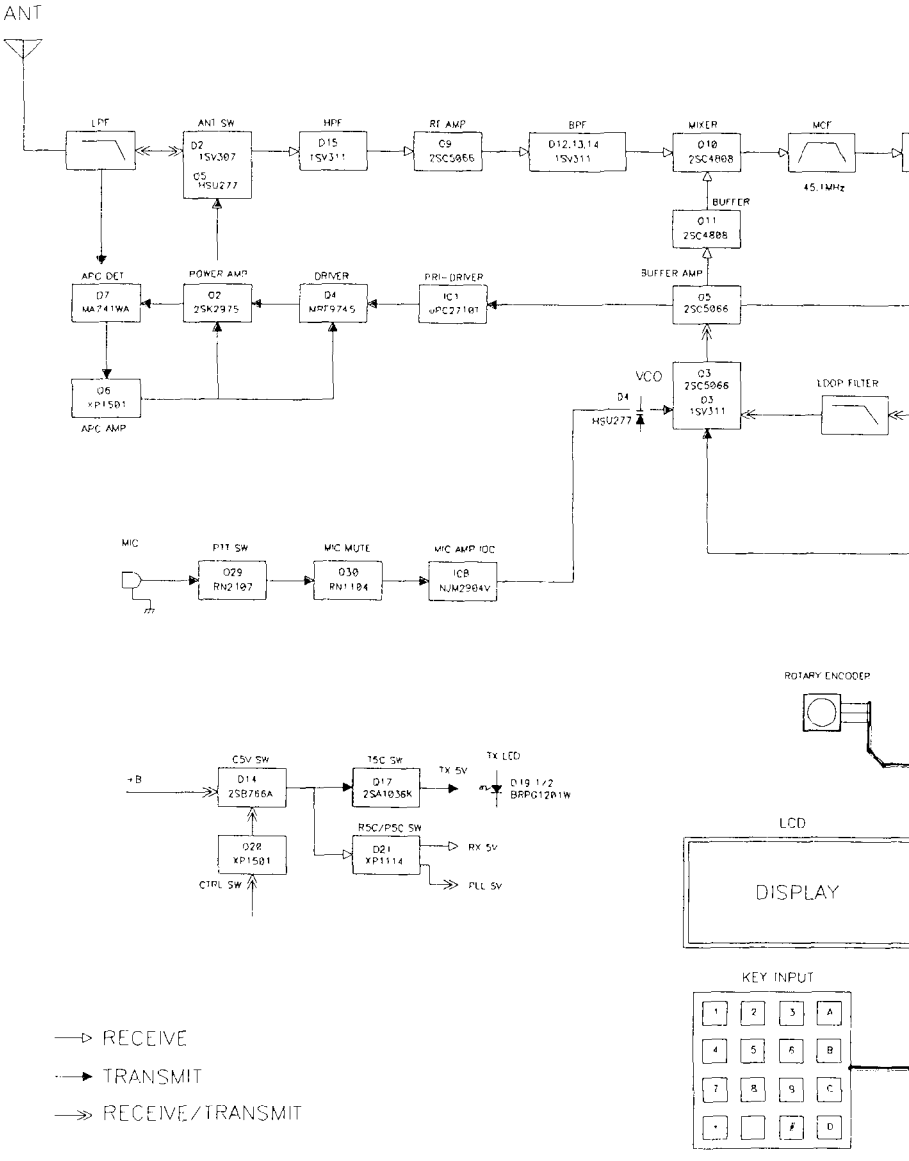
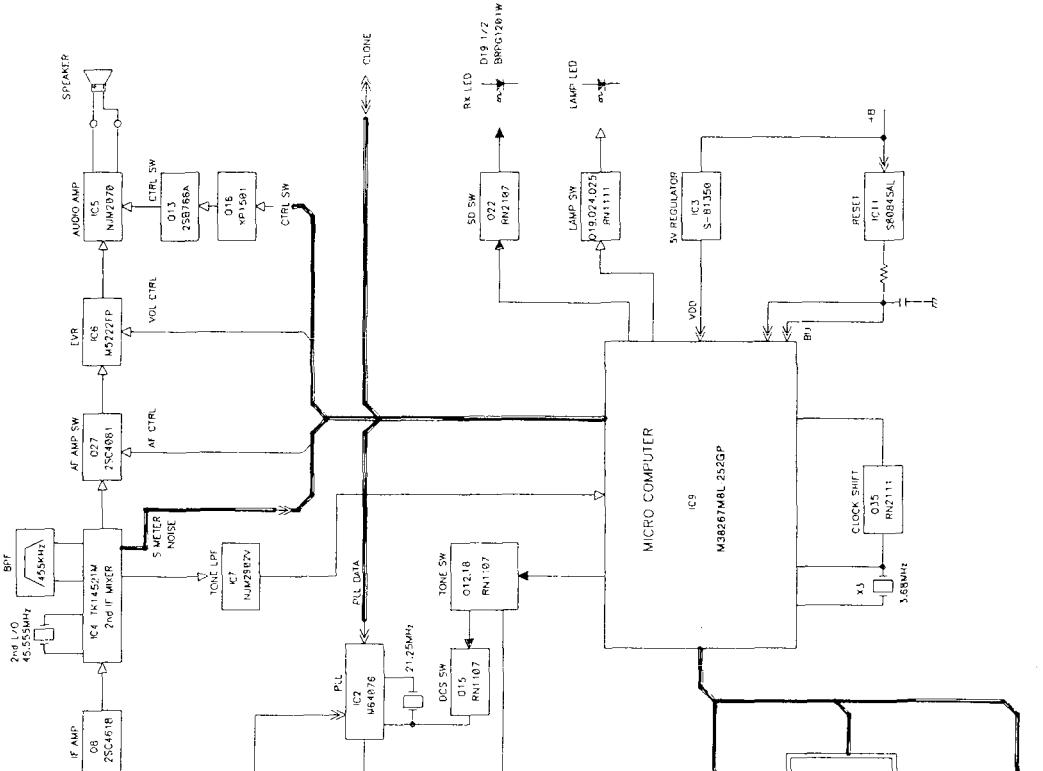


SCHEMATIC DIAGRAM (DJ-496)



BLOCK DIAGRAM (DJ-493)




ANT
LPF
ANT SW
D2 1SV307
Q5 HSU277
HPF
D15 1SV311
RF AMP
Q9 2SC5066
BPF
D12,13,14 1SV311
MIXER
Q10 2SC4808
MCF
45.1MHz
BUFFER
Q11 2SC4808
APC DET
D7 MA741WA
POWER AMP
Q2 2SK2975
DRIVER
Q4 M67745
PRI-DRIVER
IC1 μPC2710T
BUFFER AMP
Q5 2SC5066
Q6 XP1501
APC AMP
VCO
Q3 2SC5066
D3 1SV311
D4 HSU277
LOOP FILTER
MIC
PTT SW
Q29 RN2107
MIC MUTE
Q30 RN1104
MIC AMP IOC
IC8 NJM2904V
ROTARY ENCODER
+B
C5V SW
D14 2SB766A
Q28 XP1501
CTRL SW
T5C SW
Q17 2SA1036K
TX 5V
TX LED
D19 1/2 BRPG1201W
R5C/P5C SW
D21 XP1114
RX 5V
PLL 5V
LCD
DISPLAY
KEY INPUT
RECEIVE
TRANSMIT
RECEIVE/TRANSMIT

BLOCK DIAGRAM (DJ-496)